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## ORIGINAL ARTICLES

### SUFFOLK DISTRICT MEDICAL SOCIETY

**Meeting Feb. 24, 1926**

### INTRODUCTION BY DR. R. B. OSGOOD

IN introducing Dr. Lewis the Chairman of the meeting said, "It is an almost unnecessary pleasure to introduce to you the speaker of the evening. Several years ago in conferring the Bigelow Medal for eminence in surgery upon Dr. William W. Keen of Philadelphia, Dr. Cushing spoke of him as an institution rather than an individual. Borrowing his thought, I should like to speak of Dr. Dean Lewis as a foundation rather than a person. He has certainly laid the cornerstone of many important surgical superstructures of research, of methods of medical education, of clinical work. One of the foremost medical institutions of the country, with the foreign and American field open to it, has made him the Chief of its Department of Surgery. Remembering Dr. Lewis's eminent military service the proximity of our national holiday, I should like to welcome him to Boston as 'first in war, first in peace, first in the hearts of his surgical countrymen.' Dr. Dean Lewis, Professor of Surgery in Johns Hopkins University."

### POSTOPERATIVE TREATMENT

BY DEAN LEWIS, M.D., F.A.C.S.

THE character and amount of postoperative treatment required are largely dependent upon the pre-operative care, the character of the operation and the way in which it has been performed. Postoperative care naturally varies with the tissues and organs involved. The object should be to supplement the operation, restoring the patient to as nearly normal as possible with as little loss of time and inconvenience, as is compatible with the character of the lesion necessitating the operation.

With the development of a rigid aseptic technic, the postoperative treatment of the wound has been reduced to a minimum. I am not as optimistic, however, as some who claim, that with the strict surgical ritual employed today, perfect healing can be guaranteed in every case which is clean when the operation is undertaken. This is true in by far the greater number of cases, but occasionally an infection develops in spite of all precautions, for the number engaged in the preparation of supplies is so great that there is always a possibility of a break in technic.

The effect that pre-operative care may have upon convalescence is not always fully appreciated. The elaborate procedures formerly employed the night before an operation robbed the patient of strength and not infrequently instilled a dread, which could not be dispelled. There is no reason for depriving a patient of nourishment when an unusual demand is to be made upon his strength. Unless there is a mechanical obstruction food leaves the stomach in a few hours and, if light, may be allowed up to a few hours before the operation. There is no reason for free catharsis. If patients who have been allowed food up to a few hours of the operation, as much water as they like up to within half an hour of the operation, and have had no strong cathartic, are compared with those who have been starved and purged; there can be no doubt that the former are more comfortable after the operation. The precaution taken before operation to disturb as little as possible the daily routine favors a more rapid and easy convalescence. In certain cases—such as the prostatic and exophthalmic goiter—the preparation of the patient, which may require some time is absolutely essential.

The postoperative treatment of several of the abdominal operations has been standardized. In the ordinary case of appendicitis, not complicated by peritonitis, a quarter of grain of morphine may be given when the patient reaches his room. Liquid diet is continued for four days. An ounce of castor oil may be administered on the fourth day, and soft diet be commenced shortly afterward. The stitches are removed on the seventh day, and if a muscle splitting incision has been used, the patient may be up on the seventh day, and leave the hospital on the eighth.

Backache may be troublesome and demand considerable attention. To avoid this care should be seen that the table is properly padded and every effort should be made to see that the long muscles of the back are not too much relaxed during the operation. A small pad under the lumbar spine may help, but in many cases

any precaution which may be taken does not seem to avail. Elevating the head of the bed, placing the patient upon the side, do not relieve in some cases. In many they do. Proper precautions in placing the patient upon and removing him from a table properly prepared may reduce to a minimum the pain in the back which is so distressing.

The so-called gas pains are frequently troublesome. They may occur with operations upon the extremities, but naturally are most common after operations upon the intestinal tract. They seem to be due to segmental inactivity of the intestines. Morphine may relieve. Catharties frequently increase these pains. An enema frequently gives relief. A rectal tube is of considerable value. Heat applied to the abdomen, an electric pad being used, often gives considerable and rapid relief.

As the postoperative treatment of many abdominal operations has been standardized, what may be called the complications, the causes of which are sometimes found with difficulty, demand the first attention in the after treatment.

If a gastro-enterostomy has been performed, liquids are required for a few days. If the anastomosis has been done well, there is no reason why liquids should not be given in small amounts shortly after the operation. Custard or jellies may be given on the third day in small quantities if vomiting does not occur.

In the treatment of vomiting, which may occur after gastro-enterostomy, considerable judgment may be required. The vomiting of small amounts is usually readily controlled by a stomach tube carefully inserted. Retention following gastro-enterostomy may greatly complicate the postoperative course of a gastro-enterostomy or a resection of the stomach. The term vicious circle should not be employed longer, for the vicious circle is a mechanical obstruction occurring in the distal loop of the jejunum employed in the gastro-enterostomy. It is difficult to determine when this occurs, whether to continue gastric lavage, hoping that the obstruction will correct itself, or to operate with the view of correcting the obstruction. Too long delay in correcting this obstruction may render any attempt futile, and the keenest judgment is required. Lavage will relieve in some cases, but it has been my experience that not infrequently operative interference is required. The term vicious circle does not indicate the nature of the lesion. Persistent vomiting or overflow of the stomach is due to a high obstruction, usually in the distal loop of the intestine used in making the anastomosis. The frequency of occurrence of this complication may be greatly reduced by suturing the mesocolon well back on the stomach, so that, if any changes occur during repair, the stomach is affected rather than the intestinal loops. Obstruction is much less easily produced in the stomach than in the loops of the intestine employed in making the gastro-enterostomy.

Regarding the after treatment of duodenal ulcer, I have never been convinced that it is necessary to place the patient on a strict dietary regime following gastro-enterostomy or other operative procedures, such as pyloroplasty. If such a regime is necessary to promote the healing of the ulcer or prevent the development of another, the surgical treatment of ulcer has failed. It has always been my custom to place these patients as soon as possible upon their ordinary diet, emphasizing that some articles of diet should be used with caution, and to let them forget as soon as possible that they have been invalided by either disease or operation.

Two complications demanding attention in the postoperative care, occurring especially after operation in the upper abdomen, are hiccough and acute dilatation of the stomach. The latter occurs with lessened frequency, as the technic of gastric surgery has been developed and modified. Hiccough may occur and be difficult of control even when the surgery has been well done.

### HICCOUGH

Hiccough has an interesting history. Mention of it dates back almost to the beginning of medicine and although it has attracted considerable attention from time to time but little has been added in the way of treatment.

Hippocrates made the statement that hiccough and red eyes due to severe vomiting were bad symptoms, and that hiccough might cause an injury to the brain by forcibly driving the blood through it.

During the plague of Athens many developed hiccough. Alberti in 1578 published a dissertation entitled de Morbis mesenterii et de singultu. In the early studies hiccough was thought to be due to some lesion of the stomach, and the characteristic noise associated with it to some change in this organ. A number of theories have been advanced as to the nature of hiccough, but it is now generally recognized that it is a clomic spasm of the diaphragm. Cases of hiccough in which but one-half of the diaphragm was involved in the spasm have been observed.

The lesions in which hiccough develop are so numerous that it has no value as a symptom. It may develop as the result of cerebral disturbances, of stimulation of the respiratory center, by venous blood, in uremia and acetonemia, and as the result of stimulation of the respiratory center reflexly, following stimulation of the sensory fibers of the vagus and sympathetic nerves.

Hiccough occurs most frequently as a complication in those cases in which the abdominal viscera and their peritoneal coverings are affected; next, most frequently in diseases of the brain and spinal cord. It is observed but rarely in diseases of the thoracic viscera.

The relation of psychic disturbances to hic-

cough is shown in a case reported by Makelarie. A 16 year old child was frightened and daily between 4 and 5 o'clock in the afternoon hiccough developed which could not be controlled by any kind of medication. The effect of imitation is shown in the report of the occurrence of hiccough in a girls' school in Vienna. A 12 year old child who had been disciplined, developed a tremor, weakness, lost consciousness, and some minutes later developed hiccough. Two hours later her companion began to hiccough, and in the course of 10 days 16 more, and after 14 days, 28 of the 35 children had developed hiccough. The hiccough lasted throughout the day and only ceased at night. In one of the children the hiccough lasted 14 days. This hiccough probably was more or less imitative.

The relation of diseases of the brain to hiccough is indicated by its occurrence in hydrocephalus, tuberculous meningitis, chronic myelitis, tuberculosis of the pons and medulla, and tabes.

Fetal hiccough is probably caused by alteration in the maternal blood. Its occurrence in infections is probably due to the absorption of toxins or the retention of products of metabolism.

There is hardly a disease of the abdominal viscera in the course of which hiccough has not developed. Hiccough occurring after operations upon the abdominal viscera is usually reflex in character. The phrenic nerve contains sensory fibers which are distributed to the pericardium, pleura and peritoneum. These are intimately related to the sympathetic chain which upon entering the thorax send fibers to the inferior sympathetic ganglion. Lower down, the phrenic gives off the phrenico-abdominal branch to the under surface of the diaphragm, which communicating with sympathetic fibers enters into the formation of the phrenic plexus. In many parts of the diaphragm the end branches of the phrenic nerve anastomose with non-medullated fibers entering into the formation of the solar plexus. The phrenico-abdominal fibers are sensory. Some of these pass through the suspensory and coronary ligaments to the peritoneum covering the upper surface of the liver.

It has been demonstrated experimentally that the phrenic nerve contains centripetal fibers which may influence the respiratory center. The wider distribution of the phrenic nerve in the abdomen than in the chest accounts for the relative infrequency of hiccough in diseases of the chest and its frequent occurrence in diseases of the abdominal viscera.

Hiccough occurs in diseases of the thoracic viscera only when the lesion is situated close to the points at which the fibers of the phrenic are given off—root of the lung, arch of the aorta and pericardium.

Tumors of the thorax which involve the fibers of the phrenic may cause hiccough. These are usually situated at the hilus of the lung. Aneurisms of the aorta have been associated with hiccough. It has also been observed when the nerves supplying the diaphragm have been included in tuberculous masses and in pleuritic exudates.

These facts have been cited to indicate with what a variety of lesions hiccough may be associated, and to demonstrate that clinically, at least, hiccough occurs frequently with lesions so situated that the terminal filaments of the phrenic nerve may be involved or encroached upon.

### POSTOPERATIVE HICCOUGH

Postoperative hiccough may be most troublesome. Operations upon the gall bladder and stomach are most frequently followed by it. In some of these cases an inflammatory lesion extending to or involving the under surface of diaphragm may be demonstrated.

I have recently observed four cases of hiccough—two were persistent. In one case hiccough followed removal of the gall bladder and drainage of the common duct. Hiccough, more or less intermittent, which persisted for three weeks, developed, the patient finally dying. In another case—the patient was operated upon for a large carcinoma arising from the middle of the lesser curvature of the stomach which could not be removed. An anterior gastro-enterostomy and an entero-enterostomy were performed in this case. When the operation was performed, a flat inflammatory infiltration of the gastrohepatic omentum was found. This extended to the under surface of the diaphragm. Hiccough had not occurred prior to the operation. Upon recovering from the anesthetic hiccough developed and occurred intermittently for about nine days. Going back in the history, prior to entrance to the hospital, it was found that the patient had had at short intervals hiccough. When the patient left the hospital two weeks after the operation hiccough had subsided.

In another case hiccough developed following a common duct drainage, and in still another after an operation for intestinal obstruction following appendectomy, in which an enterostomy for drainage of the distended loops was performed. In three of these—two cases of drainage of the common duct and an intestinal obstruction—toxemia must be considered as an etiological fact; in the fourth the extension of an inflammatory process to the under surface of the diaphragm were undoubtedly the cause.

Cessation of hiccough has been noted after the removal of a drain from the ileum after ileostomy. Hiccough has also been observed in a case in which small pieces of omentum were caught in sutures when the abdominal incision was closed. Hiccough occurring after drainage of an osteomyelitis or minor operations upon the extremities may be caused by the anaesthetic.

Postoperative hiccough is apparently observed

much more frequently in men than in women. Küttner's 12 cases all occurred in men. These were private patients. That it occurs frequently in charity patients can be confirmed by those surgeons working in municipal hospitals.

The character of the breathing may account for the less frequent occurrence of hiccough in women than in men. This is probably due to the lessened diaphragmatic excursion in women. The more frequent occurrence in adults than in children may be due to changes in breathing, in the former associated with calcification of the costal cartilages. It should be noted, however, in this connection that the operations—gall bladder and stomach—which are most frequently followed by hiccough, are rare in the young. Undoubtedly postoperative hiccough is more common in men than in women. The different character of the breathing may account for the difference in incidence between the two.

The number of drugs employed in the treatment indicates that hiccough is difficult of control. The fact that many are regarded as specific indicates also that many have been given when the hiccough was about to stop, and the effect was coincident rather than real. No one remedy is specific in spite of the fact that many have ardent advocates.

It has been my experience that the stomach tube with lavage gives relief most frequently, when hiccough has developed after operations upon the stomach and bile passages. Lavage should be continued until the water returns clear. Nothing should be given by mouth and morphine should be administered from time to time to induce sleep. The cessation of hiccough after gastric lavage occurs too frequently to be accidental. The value of sleep cannot be overestimated. As previously stated, almost any procedure or medicine at times gives relief, but usually in these cases hiccough was about to cease when the remedy was applied.

Injection of the phrenic nerve with alcohol should be reserved for those cases in which hiccough persists after all other types of treatment have failed, and control of the hiccough is necessary to maintain the life of the patient.

### ACUTE DILATATION OF THE STOMACH

Acute dilatation of the stomach may be a complication of a number of different lesions. An analysis of the cases often renders difficult the determination of the etiological factors. Many different views, often divergent, have been expressed concerning the causes.

It has been previously stated that the vomiting and retention following gastro-enterostomy are usually due to a high mechanical obstruction, an obstruction at the gastro-enterostomy orifice, and that if this is not rapidly relieved by the use of the stomach tube, an operation may be indicated for relief.

Certain facts have been observed which indicate that acute gastric dilatation occurring during or after abdominal operations may be reflex. Carlson and Luckhardt have demonstrated that visceral reflexes may be elicited by the stimulation of either somatic or visceral sensory nerves. The vagus has an inhibitory action on the cardiac and pyloric sphincters. Contraction of these sphincters on the other hand follows stimulation of the sympathetic fibers of the coeliac plexus. Relaxation of the stomach accompanied by contraction of the pyloric sphincter has been observed after direct stimulation of the peripheral splanchnic nerves.

Most of the cases of acute dilatation of the stomach have been observed after laparotomies. It accompanies or follows most frequently operations on the stomach and the pelvic organs of the female.

Paralysis of the stomach does not occur after destruction of its motor innervation, for the alimentary tract has a peripheral automaticity. Section of the extrinsic nerves supplying it does not produce paralysis any more than section of the vagus or the sympathetic produces a paralysis of the heart musculature. The etiology of acute gastric dilatation is not known. Early recognition is necessary, if recovery is to occur.

In cases following operation few or no symptoms may be noted for from 24 to 48 hours. At times vomiting, usually thought to be due to the anaesthesia, may be more marked than usual. The patient may complain of a distressing sense of fullness in the epigastrium. From this time on vomiting becomes the most constant and distressing symptom. Regurgitation rather than vomiting occurs and a thin brownish-black or greenish-black fluid runs from the mouth—the stomach seems to overflow.

The distress is not relieved by the regurgitation, and if a stomach tube is passed one-half to 2 or 3 liters of fluid may be obtained. A persistent hiccough—unfavorable symptom—may develop.

The abdomen is usually distended. In moderate cases the distention may be chiefly in the left side, but in severe cases it may be uniform. The greater curvature of the stomach may extend to the pubis.

Occlusion of the duodenum by the superior mesenteric artery is not the essential etiological factor. When the dilatation has developed, however, and the stomach has fallen toward the pelvis the stretched artery is probably an important factor in maintaining a mechanical obstruction. No such clinical picture follows obstruction of the duodenum. In high intestinal obstruction due to various causes, acute dilatation of the stomach has not been observed.

The symptoms resemble closely those of a peritonitis due to perforation and acute intestinal obstruction. Vomiting persists, thirst is marked, the urine is scanty and collapse develops. The patient seems to be rapidly dehydrated. Apparently an important factor in the develop-

ment of these toxic symptoms is the secondary obstruction of the duodenum. Experimentally it has been shown that even mild degrees of obstruction of the transverse duodenum may produce a rapidly fatal toxemia.

The fluids removed by stomach tube or regurgitated are far in excess of the fluid intake and the source of these large quantities has been the subject of considerable conjecture. This fluid contains little or no free Hcl; practically always bile. Dragstedt states that the poisons found in acute obstruction are active secretagogues and that it is probable that they are identical with the so-called secretin bodies. When injected they produce a marked stimulation of the duodenal, pancreatic, biliary and gastric secretion.

Nothing can be done in an operative way to relieve acute dilatation of the stomach. The most important is early recognition, for removal of the fluid may permit of the return of power to the rapidly stretching musculature, and posture may relieve the pressure of the superior mesenteric artery. Early recognition is most essential. The fluid contents of the stomach should be removed. Lavage should be employed until the water returns clear. Nothing should be given by mouth. Normal salt solution should be given intravenously to restore the body fluids and morphine should be given to induce sleep.

Early recognition is the most important factor, for relief depends upon it.

### ILEUS

Paralytic ileus has almost disappeared as a postoperative complication due to the perfections in aseptic technic. Mechanical obstruction still occurs occasionally, even when every effort has been made to cover raw surfaces and restore the peritoneum to its normal condition.

Most of the cases of obstruction are either paralytic or mechanical and, I believe, that pituitrin and cathartics are strictly contraindicated when an obstruction is suspected. They are still employed, although the nature of the lesion may be suspected or known. The symptoms are usually so definite that there is little difficulty in recognizing the lesion.

Early recognition of obstruction is necessary. The toxin which produces fatal results requires a certain time for development and the obstruction should be relieved before it develops, certainly before any great amounts of it are absorbed.

I have mentioned obstruction to emphasize what I believe to be an important therapeutic measure in these cases, and that is jejunostomy. There is a marked difference in the behavior of some cases of obstruction. I have seen cases of gangrene of 4 to 5 feet of the small intestine, strangulation having occurred under a band or at a tight hernial ring, in which patients rapidly recovered after resection and enterostomy. These are in marked contrast to some cases of mild obstruction of but a few hours' duration, in which the obstruction was readily relieved; and the changes in the bowel above the obstruction were so slight, that one would never hesitate to close the abdomen without any fear of a fatal result. I have seen such cases die within 18 or 24 hours, with all the symptoms associated with a severe toxemia. Stone and Firor have demonstrated conclusively the toxic effects of the contents of these obstructed loops, and I have about come to the conclusion that a jejunostomy, permitting of a constant drainage of such loops, is indicated even when there are no marked physical changes in the distended loops above the point of obstruction.

Dilatory methods are too frequently employed. Violent stimulation of peristalsis should never be resorted to in these cases. A low enema may be given; but in the end an obstruction after being recognized usually requires mechanical therapy.

I have discussed at some length three postoperative complications; time does not permit of the postoperative treatment of many lesions which is often required. Complications due to lesions of the thorax, pulmonary embolism, thrombophlebitis, cystitis and a host of others might be discussed to advantage; but I have confined my remarks to hiccough, acute dilatation of the stomach and postoperative ileus, because they seem at times to present the greatest problems. In two of these, early recognition is the sine qua non of successful therapy. In the other, early recognition is forced upon the attending surgeon, and the hiccough may persist in spite of everything that can be done and may subside quickly when nothing is done.

### ADMINISTRATION OF FLUIDS

The time is ripe for the investigation of the amount of fluids required by a patient following an operation. Usually as a routine we give patients all the fluid they will take, often more than they require. Naturally fluids should be given by mouth whenever possible. Water may be given by mouth as soon as the patient awakes, unless there is a distinct contraindication. Nausea may be controlled by water. If the patient vomits, it may be given again, for it dilutes and removes the ether excreted into the stomach.

If water cannot be retained when given by mouth, it should be given by the drip method. I believe this preferable to giving 4 to 6 oz. by rectum every 4 to 6 hours. More water is usually retained and certainly with less discomfort. If the patient is dehydrated salt solution may be given intravenously, or if acidosis threatens a glucose solution combined with insulin. It seems to me that the continuous administration of salt solution into the subcutaneous tissues of the pectoral region is painful and is not indicated in the majority of cases. As stated previously, there is a tendency to administer too

great amounts of fluid, and some one should attempt to determine the amounts required in different groups of cases to maintain the water balance.

### ADMINISTRATION OF MORPHINE

The discussion about morphine still goes on apace. A quarter of a grain of morphine may be administered to advantage when the patient returns to his room or on leaving the operating room. Morphine renders recovery from the anaesthetic less painful and prevents many of the difficulties encountered in recovering from it. Usually but one dose is required to relieve the discomforts developing immediately after the operation.

The postoperative treatment of diabetics, nephrities and prostatic cases will not be discussed. The treatment of these patients has been discussed in many recent papers.

The postoperative treatment of most abdominal lesions is now largely a treatment of complications. The more perfect the surgery performed, the less the need of postoperative treatment. The simpler the postoperative treatment, and the sooner the patient is permitted to return to his normal routine the better.

In discussing after treatment we are apt to confine ourselves to the after treatment of abdominal cases and neglect surgical lesions of the extremity which are apt to be disabling unless proper postoperative treatment is instituted. In these the postoperative treatment is probably more essential than in abdominal cases. I refer especially to injuries of tendons and nerves.

### TENDON INJURIES

In discussing the after treatment of tendon injuries, usually division, the necessity of maintaining function during repair has not been sufficiently emphasized. All statistics dealing with tendon suture in which fixation has been maintained for some time are unsatisfactory. Function must be reëstablished early and in order to permit of early reëstablishment of function a suture with sufficient holding power to permit of early function but one that does not strangulate the tissue, must be employed. The importance of early reëstablishment of function cannot be overemphasized. Either the Frisch or Dreyer suture is best suited for this purpose. One precaution, however, must be observed, and, that is, late separation which may occur after suture of tendons with a synovial sheath. Late separation of these tendons may occur after suture and some precaution must be used. The cause for the separation in these cases has been variously explained. Bier suggested that the synovial fluid contained a hormone which interfered with tendon repair. Resort to such an explanation seems unnecessary when the method of tendon repair is understood. Tendons are repaired after suture not so much by tenoblasts as by the connective tissue surrounding them and separating the different bundles of fibers. Absence of the surrounding connective tissue accounts for the delayed or imperfect repair in those tendons with a synovial sheath. Delayed or non-union is also noted in the articular fractures. This has also been explained by assuming that a hormone in the joint fluid interfered with bone repair. The absence of periosteum accounts for the lack of repair in these cases. The best example of failure of repair is the intra-articular fracture of the carpal scaphoid. Extra-articular fracture of this bone may repair, and intra-articular fracture practically never does.

Early substitution or restoration of function is of utmost importance in the treatment of nerve injuries. It has been emphasized that the paralyzed muscles or group of mucles should be dressed in the neutral or relaxed position during the repair following suture of a divided nerve. This is true, but substitution of function is important in the treatment of the paralyzed muscles. Elastic instead of rigid splinting should be employed whenever possible, for not infrequently the amount of muscle atrophy is directly proportional to the amount of disuse. An elastic splint permits of use of the paralyzed group of muscles and a return to the neutral or relaxed position after these have functioned. An attempt is made to simulate as closely as possible normal function. When such a dressing is applied the necessity for physio- and electrotherapy is done away with or becomes of minor importance.

Postoperative treatment, intelligently and not too assiduously applied, giving the patient rest when needed, restoring his ordinary diet and reëstablishing his ordinary routine and the function of the part or parts involved as soon as possible is a valuable adjunct to surgery. Surgery well done, however, requires but little postoperative treatment. The best surgery reduces it to a minimum.

### DISCUSSION

DR. FRED B. LUND, F.A.C.S., Boston: I wish to pay my tribute to the very graceful introduction which Dr. Osgood gave Dr. Lewis and to remind this Society that fifteen years ago when I sat in Dr. Osgood's chair Dr. Lewis came on and read a paper on tendon suture. Now when I was told I was to discuss the paper, one of the younger surgeons asked me if he was going to talk on the recent researches on alkalosis in obstruction of the pylorus, and I concluded he was and I looked up the subject and came across words called anions and kations, and I couldn't make anything out of them. I looked at the two words and it occurred to me that "anion" meant going up, as Pericles would have said to the elevator boy if they had elevators in Athens, and "kation" meant going down. Of course,

as you all know, these words apply to the atoms set free from the molecules and going to the positive and negative poles. But I found that that was only a beginning of the understanding of the subject and, as Dr. Lewis did not discuss it, it is not necessary for me to do so.

Aristotle said that the difference between experience and science is that by experience you know that a result follows a given cause and, in science, you know the reason why the result follows the cause. It is just as in Charles Lamb's essay on roast pig, where it was noticed that when the house burned down they got roast pig, and every time they wanted a roast pig they thought they must burn the house down. It was subsequently ascertained that a pig could be roasted over a similar and less expensive fire. In the old days before asepsis, we know by experience that patients with compound fractures died unless amputation was done. Consequently, to cure compound fractures, every leg had to be amputated. When we learned that patients died of infection, we found that by keeping out the bacteria our patients would recover, thus illustrating an important difference between experience and science. Medicine is progressing every day, from luck to certainty, from experience to science.

In regard to the difference between operative- and after-treatment, we all know that when one surgeon does not think well of another he is apt to say "he is a fine operator, but no surgeon," meaning by the last statement that he has no judgment and has no understanding of after-treatment. I remember well a surgeon in this city who made a great reputation by doing ovariotomies. One of his colleagues, who was perhaps a little jealous, said in regard to him: "An ovariotomy is one of the simplest of operations, and any operator can do it, but it takes a surgeon to know how to take a tube out of an empyema." As Dr. Lewis has said, the manner of operating has a great deal to do with after-treatment, and, as he has also said, after-treatment should begin before the operation. We have learned not to empty patients out with catharties and not to alter their diets before operations. Operations should be done so as to require no after-treatment. The patients ought not to know they have been operated upon. A surgeon may even remove a thyroid without the patient knowing, as a pickpocket would steal your purse.

There are certain operations, such as abdominal operations, where distension occurs and the question as to whether this may be done simply to gas, or to a spreading peritonitis and should call for the reopening of the wound, is a very delicate one. Secondary operations may be quite serious and we do not want to do them when they are unnecessary. In case we have done something a little different from the ordinary procedure in connection with an operation, we are often unnecessarily worried. Even if a patient has distension and vomiting, provided the pulse and temperature are not high, it is better not to worry. When I was a young man, I had a lesson in this particular from the late Dr. Richardson. I had removed pus tubes from a patient and sewed the patient up without drainage, although it was the custom at that time to drain these cases. After the operation she began to vomit and I was very much worried. Dr. Maurice Richardson, who happened to be in the hospital, saw her with me and I asked him whether I should reopen her. He said: "If she hasn't got peritonitis, she will get well; if she has, she will die. The best thing you can do is to go home and go to sleep." I did so and the other day I met the patient referred to on the street, some thirty years after. Sitting up in bed is a great help in abdominal cases, whether they have general peritonitis or not. The gatch-bed is a great help for this purpose. The value of subpectoral salt solution is enormous. I have had patients whose pulse went so high it could hardly be felt, whose recovery began after copious doses of salt solution subpectorally and after transfusions. The "father of philosophy," Thales, said that water was the origin of all things. He was pretty nearly right. A very large per cent. of our tissues is water and we suffer severely when deprived of it. Take the Hippocratic facies as they might be interpreted in modern terms: "Nose sharp, eyes hollow, temples shrunken, ears cold and contracted, with their lobes turned outward; the skin about the face hard and tense and parched, the color of the face as a whole greenish or dark." What a picture of dehydration!

About the use of drainage:—We are using less and less drains. Drains are for four purposes: For the first purpose, to let out pus, a large tube and not gauze should be used. Sometimes I tell house officers who do this that the drain is not to prevent the pus from staining the dressing, but to let it out. Surgeons are not infrequently called to see cases which are not doing well with gauze drainage, which blocks up the opening of the skin so that the pus dissects between the skin and the fascia or between the muscles. All we have to do is to remove the drain and the patient gets well. The second purpose is to let out toxic fluids, as in the use of the small drains which are put in the neck after thyroid operations. The third use is for compression to prevent hemorrhage. This is rarely used as hemostasis is usually perfect, but it is sometimes valuable in rupture of the liver where there is oozing under low pressure, and gauze packing will stop hemorrhage. Here the stream of blood going into the liver through the arteries and veins spreads out as a river does in flowing into a lake, so that the swiftness of the current and the pressure on the vessels is very much lowered. Therefore it takes very

slight pressure to stop hemorrhage from the liver, which is fortunate because in rupture of the liver we are often compelled to stop hemorrhage by the pressure of gauze where the tissue is inaccessible to sutures. The fourth use is to provide a safety valve in case of rupture of a hollow viscus as in intestinal anastomosis. A little reflection will show that what we want here is to drain the gas from the distended viscus and not to drain pus; therefore the proper drainage here is internal and may be accomplished in the case of the sigmoid, or even of the left colon, by the passage of a stomach tube through the rectum. This is a great safeguard. When dealing with the colon above, a catheter may be sutured into the cecum above the anastomosis.

When to take out drains? There is a great difference of opinion in cases of infection following abdominal operations, whether you should gradually withdraw them or take them out at a certain date. The drains in gall-bladder cases I take out in a week. In an infected appendix case the drains may have to be left longer. If you take them out a little every day, the pus may collect behind them, and I usually remove the drains at once and insert rubber tissue. We must remember that surgery is simply the mechanical branch of therapeutics. It is more theatrical than other kinds of therapeutics. The old association of wounds and blood with accidents requiring surgery has made the public shy about surgery itself. People do realize that it is safer to be cut by a surgeon than by a railroad train or a mowing machine. Surgery is less dangerous than the condition for which it is done or we could not do it. We must admit that as surgeons we know that we are interfering with machinery about which we know very little. Such work that has been done on blood chemistry is continually helping us more and more. Chemistry seems to be the physics of the ultimate atom, and if we are to understand the human body, we must know much of chemistry and biophysics. The longer we live the more we appreciate the length of art, the brevity of life, the danger of experiment, the acuteness of the crises, and the difficulty of judgment, to which the old "father of medicine" called our attention. Perhaps it is just as well that Dr. Lewis came when he did, because in order to discuss his paper intelligently in all its bearings, one would have to have infinite knowledge, which would take a very long time to acquire, and we should be worn out waiting for the pleasure of his visit. Let us hope that in the islands of the blest we may meet and discuss these matters in the light of that divine intelligence, of which the flashes that come to us here below are so dim and few.

# SURGICAL CONVALESCENCE: MEDICAL ASPECTS*

BY JOHN BRYANT, M.D.

## I. GENERAL CONSIDERATIONS

### *A—Objective*

THE object of this paper is to present for consideration certain medical aspects of surgical convalescence, especially those aspects concerned with the first three, or hospital weeks of convalescence.

Other medical aspects of convalescence, more especially concerned with the second three weeks, or convalescent hospital weeks of convalescence, have been previously presented[1], and will be further considered in future papers.

The material herewith offered is of two kinds: certain general considerations, as time factors; and several items affecting the personal treatment of the patient. These latter items are offered, not as being new, but because though known, they too often receive too little attention from the surgeon.

It reflects upon the surgeon, though his technique be perfect, that the patient after leaving hospital, should so often be heard to say that though the operation was doubtless well enough done, what small comforts he got in hospital, were obtained with small thanks to the surgeon.

A little more attention to the details of personal treatment would, out of all proportion to the time and effort involved, increase the already high regard in which the surgeon is held by the patient.

### *B—Literature; Recent*

In preparation for this paper, the title Convalescence was sought in the indices of the last six volumes (80-85 inclusive) of the *Journal of the American Medical Association*. It does not appear at all in Volumes 81 (1923), 83, 84, and 85 (to December, 1925). In Volume 82 there is found one title, and in Volume 80 there are two titles under the heading Convalescence, a total of three titles in the six volumes. This almost complete absence of the title Convalescence from the index of this national *Journal* does not necessarily mean that there has been nothing written on this subject; for example, the writer has provided eight or ten titles since 1923. This absence must, however, reflect rather accurately the relative importance in which the fundamental subject of convalescence is today held by the majority of physicians.

### *C—Definition and Description*

What does one mean by convalescence? A recent worker has briefly said that convalescence is as much a state of mind as of body, and

*Read before the meeting of the Suffolk District Medical Society in conjunction with the Boston Medical Library, on February 24, 1926.

Taylor[8] has expressed thus some of the requirements for its successful treatment:

"The motor machinery tends to lose range, scope, elasticity, and nicety of adjustment. Exercise should include accuracy, symmetry, deliberation, normality of direction, moderate speed, and maximum force. Mental training is so inextricably interwoven with motor training that it is practically conceded that motor education is the essence or basis of the whole. The best psychic results come through coöperation of bodily and mental education. This work cannot be delegated by a physician. The reason why so many invalids remain such, or so many convalescents become invalids, is because the medical adviser fails to complete his work, to appreciate the full significance of his duties, to apply his abilities to the perfecting of his measures—in short, to fill in the niche he had modeled for himself."

But few better answers to the question, or more suggestive descriptions of the state of convalescence have been given, than that by Brochin[2]:

"The convalescent is no longer ill; but one may not yet say that he is well. He is feeble, languid, unable as yet to resume completely the use of those functions and actions indicative of normal health. The study of this state of convalescence . . . is beyond contradiction one of the most interesting which presents itself for the consideration of the physiologist, the physician, and the philosopher.

"It is a state in which . . . feebleness is at its maximum and resistance at its minimum; in which the muscular system, including the heart, is in a state of debility, in which the skin functions not at all or badly. In short, with nervous energy diminished, all the organs are below their normal degree of functional activity; and with this diminution of general tone, comes not only an increased sensitivity but a degree of nervous hyperirritability which seems to vary almost in inverse proportion to the degree of weakness and exhaustion of the convalescent patient."

### *D—Mental and Nervous Involvement*

In his description of this state of convalescence through which every patient must pass on the way to good health, Brochin displayed keen perception of a fact which is too little understood or appreciated; namely, that after serious illness, medical or surgical, the patient, before a completed convalescence is possible, must have recovered from a condition of relative disorganization of the nervous system, both mental and motor. This disorganization of the nervous system may not be too obvious. It must however be given fullest consideration if the physician expects to obtain from his medical or surgical procedures an end result gratifying both to himself and to his patient.

### *E—Fundamental Similarity of Medical and Surgical Convalescence*

From this point of view, or indeed from any point of view, it makes little difference whether the patient has had pneumonia or typhoid, or an operation for disease of the gall bladder, or of the bone or other structure. Operative procedures become, so to speak, incidental, mere contributing factors in producing the total degree of deviation from normal from which the patient is convalescing.

### *F—Time Factors*

It is too frequently and too complacently assumed that the time factors involved in convalescence are chiefly those dictated by the duration of healing of traumatized local tissues, whether the trauma has been produced by the scalpel and manipulations of the surgeon, by a fracture of bone, or by a crushing or other destructive force. Thus, both in medical and surgical circles, the unit of time for recovery in acute medicine is frequently viewed as being between ten and fourteen days. This of course means that at the end of this period of time, the patient is either headed for extinction or is on the road toward recovery. Such a unit of time, based upon the findings of pathology and anatomy, concerns however only the tissues affected by the surgeon or by the disease which brought the patient to hospital. It takes no account of the additional time required for recovery by the patient himself, after he has successfully passed through the immediate stage of acute illness.

From the point of view of perfect surgical technique, it may be correct to state that the average patient is well in three weeks. But from the point of view of the immediate comfort and future health of the patient as a human organism, the point of view from which this paper is written, such a statement is absolutely not correct.

Since any rational understanding of the problems of medical or surgical convalescence presupposes an accurate idea of the time factors involved in the recovery of the patient himself

TABLE 1

MEDICAL CONDITIONS

| Diagnosis | Number of cases | Average stay in hospital in days, patients not going to camp | Number of cases | Average total stay in days in hospital and camp |
|---|---|---|---|---|
| Influenza | 27 | 25 | 828 | 31 |
| Pneumonia | 24 | 35 | 170 | 58 |
| Acute bronchitis | 33 | 24 | 233 | 36 |
| Mumps | 20 | 18 | 53 | 39 |
| Measles | 0 | 0 | 18 | 27 |
| Scarlet fever | 8 | 57 | 7 | 77 |
| Catarrhal jaundice | 1 | 17 | 7 | 38 |
| Diphtheria | 0 | 0 | 5 | 57 |
| Tonsillitis and sinusitis | 34 | 19 | 90 | 34 |
| *SUMMARY | 147 | 28 | 1411 | 44 |

*Inserted by the writer.

from acute illness, and since there is a widespread misunderstanding of the time actually required for complete recovery of the patient himself, it is necessary to refer for authoritative information upon this subject, to the only article in the literature which gives reliable data upon this important question, namely, the article by Bridgman[1], entitled "Duration of Normal Convalescence,"—especially to those figures in his tables, Tables 1 and 2.

TABLE 2

SURGICAL CONDITIONS

| Diagnosis | Number of cases | Average stay in hospital in days, patients not going to camp | Number of cases | Average total stay in days in hospital and camp |
|---|---|---|---|---|
| Hemorrhoidectomy | 21 | 20 | 25 | 45 |
| Herniotomy | 31 | 24 | 41 | 50 |
| Hydrocelotomy | 6 | 22 | 7 | 54 |
| Tonsillectomy | 10 | 20 | 8 | 37 |
| *SUMMARY | 68 | 22 | 81 | 47 |

*Inserted by the writer.

These figures, although not final, suggest that:

1. There is no great difference in actual recovery time, between medical and surgical cases. Both require an average total of not less than six weeks for completion of convalescence.
2. In both groups of cases, the actual time for full recovery is more than double the time (three weeks) which has been assumed to be adequate for the completion of convalescence.
3. In none of the simple surgical conditions listed was the actual recovery time less than five weeks, a finding to give pause to the prevalent custom of telling the patient that, for example, a week is ample for recovery from a routine tonsil operation.
4. If, on the basis of Bridgman's figures, it be accepted as a fact that six weeks of time is required for real convalescence, and if, as it appears, it is and has been true that our existing system can only result in the turning out of hospital, of thousands of half-cured patients, the only economic solution would seem to be to provide country branches at which hospital patients may complete recovery from illness under adequate and active rather than passive guidance, without financial ruin, and at an expense for maintenance less than half that required in crowded acute hospitals within city limits.

For present purposes, this article on convalescence by Bridgman is so important and it seems so little known, that the following paragraphs are quoted in extenso.

"Many of the neurasthenias and anxiety neuroses follow operations for acute infections, where the patient is allowed to return to the wear and tear of the usual activities of life after a relatively short period. It may well be that the prolongation of convalescence, with graduated exercises, which proved so beneficial in the case of physical injuries, will minimize the exposure to psychic trauma during that period, and thereby prevent the outspoken mental symptoms which are apt to follow, especially in those individuals whose psychic resistance is below the normal.

"The underlying principle of the camp was retraining, by graduated exercises, of soldiers who were on their way back to the front lines—a training point and not a hospital. It was essential to insist on military discipline, in order that the men, on their discharge, should be mentally as well as physically qualified for their normal duties.

"A suitable amount of relaxation was afforded by games, moving pictures, theatricals, etc., which filled up practically all the time not devoted to the setting-up exercises, squad drills, hikes and fatigues—the whole being under medical supervision.

"On admission and discharge, a physical examination of the stripped patient was made in all instances, and promotion through the three classes representing increasing physical demands was dependent upon the ability of the soldier to perform the work and play of the particular class without untoward symptoms.

"The first qualification for discharge to full duty was the promotion of the patient through the two earlier and easier classes and his ability to accomplish the daily class work of Company 3—forty minutes of steady setting-up exercises, an hour of squad drill and a five-mile hike. If there were no contraindications, the patient was stripped and examined and then sent to the writer for a final check. How much better than the customary manner of feeling the pulse, palpating the wound, listening to the heart, telling the patient to be careful, and sending him from the wards to full duty! By the observation in the camp, his tolerance for exercise was known, and the patient himself knew what he could do.

"A further very important point was realized at the camp. On discharge, the patient was fresh from drill and military discipline, which enabled him to rejoin his outfit and to take his normal place among his companions. He had recovered from the great loss of discipline that is bound to occur in the Base Hospital, and he had been led back into the normal routine of a soldier's life.

"Follow-up after two months, on 2000 cases; more than 99 per cent. of the cases, patients discharged to Class A, who had not been killed, wounded or gassed, were fulfilling their normal functions. And those reclassified to lower categories were doing the work of their grade.

"In looking over the tables, certain suggestive observations can be made. In the first place, it is important to learn that in practically every type of disease studied, the period necessary for resumption of normal function is definitely longer than was allowed at the base hospitals.

"Attention should be called to a fact, not evident in dealing with averages, that a great many of the patients who came to the camp in the late fall, when true influenza was prevalent, were held in camp for long periods, two to four weeks,—while their stay in hospital had been only a few days. It was in this group that a great many of the effort syndrome cases were found, necessitating slow promotion. In all the other groups, the figures make obvious the need for a much longer period of convalescence than was generally employed. Leaving out the possible relationship between the lack of proper care during the period of convalescence and psychic trauma, one cannot but consider the danger associated with a lowering of bodily resistance to other infections—to tuberculosis and to cardiac infections, for instance.

"Similar reflections arise from a consideration of the records of surgical conditions. The average herniotomy needs several weeks of care before the pa-

tient is normal again, instead of the three and a half that are commonly allowed. So often one hears that some particular surgeon can get his patients who had simple cases of appendectomy out of bed and back to work in some phenomenally short time. Is that to his credit?

"In the same way, it is conspicuous that the uncomplicated tonsillectomy requires over five weeks for complete convalescence. Certainly, the majority of patients do not allow themselves so long a vacation in general practice, nor do surgeons advise so long a period.

"The results obtained seemed definite as to the period required for complete convalescence.

"This article is presented to the attention of physicians, because it is believed to be the first direct attempt to employ actual physical tests for the determination of the optimum period of convalescence, and because the periods determined seemed so much longer than are generally employed."

It was well enough known in the Army that under the usual methods of routine rapid discharge of patients from hospital direct to full duty, there was a return to hospital of patients incompletely relieved, totalling some fifteen to twenty percent of all discharges from hospital. At a large convalescent camp in France, Bridgman improved his opportunity to compare the average time of discharge from hospital direct to full duty, for various medical and surgical procedures, with the time required for men carefully checked as to physical and mental progress toward real recovery, to be certified as recovered from the same medical and surgical conditions and fit to return to front-line duty, after passing through his convalescent camp as through a proving ground between hospital and front-line duty.

Bridgman proved that six weeks, not the usually accepted three weeks, is the time required for complete recovery of the average patient sick in hospital. This proof is of great value. It is of infinitely greater value to know that Bridgman, as a result of his system, could send his patients to work really recovered in health. Never has any other observer been able to duplicate such a record as a follow-up in two months, of a group of as many as 2000 patients, giving as low as one percent of failure in the continuous and satisfactory performance of routine work. Think for a moment of the ultimate economic advantage to be gained by the general application in civic life of a system which can produce such end results, one which could almost eliminate the word "half-cured" from the medical vocabulary.

One may express surprise or disbelief at the figures arrived at, but this of itself does not invalidate the findings arrived at by Bridgman. It is more reasonable to admit that after all we may have been wrong in accepting a laboratory and local tissue basis of recovery. We may then profit by Bridgman's methods and results, act upon them, let the patient have the benefit of his data, and see to it that before being passed as fit for full duty in civil life, the patient is given for full recovery, the average of six or more weeks which Bridgman found to be necessary for the actual and complete recovery of his cases, from medical or surgical illness.

The average stay of a patient in an acute hospital today, is generally conceded to be about three weeks. But with Bridgman's figures for the average duration of medical or surgical convalescence as a reliable basis, it may be stated as a general proposition that after leaving the acute hospital, the patient who has been sick enough to require the average of three weeks in acute hospital, will yet require a second three weeks of intelligent and active convalescent care before he will be prepared to resume his previous work on a level of efficiency at least equal to that which he was maintaining before he entered hospital.

### *G—Medico-surgical Coöperation*

With a prescribed total of six weeks in mind, we are confronted with the problem of how to make the best possible use of this period of time.

In these days of preventive medicine, doubtless all will agree that the convalescent stage of illness should be favorably affected by adequate attention to the pre-operative phase of illness. Since the Mayo Clinic is commonly assumed to speak with an authority based upon experience, it seems worth while to quote the following concerning pre-operative care and medico-surgical coöperation, from a letter recently received from Dr. G. B. Eusterman of this Clinic:

"I think it is a matter of common knowledge that the surgeon and internist, until very recently, were not coöperating sufficiently to the advantage of the patient and to the progress of medicine. Evidence of this is shown by the fact that as one goes through the wards in large hospitals, one sees patients in the medical wards who should have been in the surgical wards long before; and, conversely, many patients undergo surgical operations who should first have had more careful observation and treatment.

"Here at the Clinic, there has been a gradual rapprochement between the surgeon and the clinician. I cannot take the time to go into the various reasons for this. Suffice it to say that the surgeon was broad-minded and willing to see the value of coöperation, and encouraged it as soon as results were shown. I think we might say, in the first place, that the most important phase of this coöperation is the adequate pre-operative preparation of the patient. No matter how skillful the surgeon is, if the patient is in such a condition as to make operation hazardous, an increased surgical mortality is sure to follow, even though the postoperative care is very prompt and thorough. This has been shown particularly in that group of lesions that carry a large surgical risk, such as patients with diseases of the thyroid, of the genito-urinary tract (especially the prostate with urinary retention), of the stomach and duodenum complicated by pyloric obstruction, with diseases of the biliary tract complicated by jaundice, and in patients with diabetes or cardiovascular lesions requiring surgical interference.

"For example, such pre-operative care has reduced the mortality in surgery of the thyroid from six and eight per cent. to less than one per cent. It has reduced the surgical mortality in cases of obstruction

and retention, of benign malignant lesions of the stomach and duodenum from seventeen to about two per cent. It has reduced the mortality in prostatic diseases with their complications from ten and twelve per cent. to about two per cent. In the postoperative care there has been a marked reduction—I cannot give you the actual percentage at present—in the patients with obstructive jaundice, and in patients undergoing operations on the stomach, who develop postoperative toxemia, particularly that form that is associated with alkalosis. In pulmonary complications, too, the early calling in of the internist by the surgeon has frequently avoided a fatal issue.

"In this Clinic, the intimate association of a large medical and surgical service in the same institution (St. Mary's Hospital) has been a physical factor in such close coöperation. The better postoperative care, from a dietetic standpoint, has reduced late sequelae in patients who have undergone operations on the upper digestive tract. It is now the custom before dismissal, to return all patients undergoing major operations, to the medical consultant who originally saw the patient, for further postoperative study and follow-up, and for the correction of any minor condition that has not been carried out. In my field, about the only improvement that I would wish for is a little more exact immediate postoperative care in patients who have undergone operations upon the stomach or duodenum, especially the group in which the lesion was not removed at the time of operation."

### *H—Continuity of Supervision*

Many patients complain that, in the transfer of medical responsibility from the family physician to hospital control and from hospital control back again to that of the home physician, continuity of medical care of the patient is lost. The same argument too often applies also to the transfer of the patient from medical to surgical and later from surgical to medical control. Under existing methods, it is the patient who suffers by such interrupted continuity of control and treatment. Something has got to be done about it by the medical profession. It gets nowhere to say that this does not apply in the best medical circles. It does occur, frequently, and the intelligent patient does not appreciate it. Presently, if in the meantime the situation has not been improved, the long-suffering patient may conclude to do something about it himself, without regard to what the medical profession may think about it. This way lies state-controlled medicine.

Theoretically, it would appear that responsibility for continuity of control makes it incumbent upon the sending physician to keep himself adequately in touch with the progress of his patient, temporarily under the care of another, until such time as the patient is returned to his own control. Practically, no other method of avoiding justifiable criticism is immediately obvious.

### *I—Principles of Medicine versus Personal Treatment*

Principles of medicine are often of less immediate and personal interest to the really sick patient than the small details of actual treatment; and it sometimes seems that the sick patient appreciates attention to these small details almost in inverse proportion to their actual size and importance, as judged by the physician. For this reason, rather than because the details themselves are unknown, emphasis will in the following paragraphs be placed upon certain routine procedures, attention to which the patients themselves have certainly seemed to appreciate, as indicated by repeated expressions of gratitude.

## II. PRE-OPERATIVE

### *A—General Preparation*

In these days, relatively few of the total of operations performed are absolutely imperative. In other words, a majority of operative procedures can, with the patient under adequate observation be postponed for a few hours, a few days, or even a few weeks; and in this longer period of postponement, it is possible to so improve the nerve-muscle mechanism and so train the mentality of the patient, as to affect definitely and for the better, the post-operative recovery of the given patient.

### *B—Local Infection*

Assuming an adequate physical examination and history, if the situation is not urgent, a period of training, both in hygiene and in neuro-muscular coördination should precede operative procedures. During this training period, it is possible to clean up, alleviate, or remove obvious sources of local infection.

### *C—Neuro-muscular Training*

For the purpose of what may be called nerve-muscle training, the writer has now for more than ten years made routine use of two series of exercises, one reclining and one standing. A motion picture film illustrating a group of patients executing a portion of this standing exercise routine, is available[6]. This type of exercise has also been referred to in previous articles[5]. Both these groups of exercises are carried out at a very slow rate of speed; in neither set does the rate of performance exceed a linear speed of approximately three to four inches per second. There is physiologic basis for the use of this slow type of exercise.

The first series of exercises is carried out with the patient in the reclining position; the obvious advantage of this is that the patient can be developed physically without the fatigue incident to the usual standing exercises. One result of the patient's having been trained in these exercises before operation, is that without addition mental strain after operation, the previously trained patient can be early brought to resume the use of this first set of simple reclining exercises. Its use will not only occupy to advantage both the mind and the body, but will in addition make it possible for a patient

to get out of bed even after weeks of illness, without loss of muscle tone, and with normal ability to walk; this obviates the usual loss of time devoted to regaining muscular strength, after the patient is out of bed.

### *D—Diet*

Most patients dread the more or less usual postoperative nausea and vomiting. The patient appreciates being instructed in the details of a diet which will with considerable certainty decrease this disagreeable sequel to anaesthesia. For this purpose, the writer instructs patients soon to be operated upon, to omit from their diet for from three to five days (according to the degree of expectation of nausea and the degree of nervous irritability of the patient), almost all such fats as cream, butter, and oil; and all eggs, meat, and fish. This results in the use of an intentionally one-sided diet. The patient gets a much reduced protein and fat intake, but a normal amount of minerals, vitamines, greens and starches. If the proof of the pudding lies in the eating thereof, it may be said that the results of this procedure have been most satisfactory to the patients themselves.

In addition to these dietary directions, the patient is advised to force fluids, and to use a teaspoonful of bicarbonate of soda in a cup of hot water three times daily after meals, during the period of pre-operative dietary restriction.

### *E—The Night Before Operation*

Crile and others have pointed the way to an improved mental preparation of the patient for operation. Assuming that the physician has in general told the patient what to expect, the patient will perhaps arrive in the hospital late in the afternoon, "to be prepared" for operation on the following morning.

Too often, the special directions left by the surgeon do not include orders to see that the patient receives the necessary medication to produce a satisfactory number of hours of sleep on the night before operation. With this detail forgotten, the patient is altogether too likely to have a worried, restless, even sleepless night, with the result that he or she arrives at the operating room in a needlessly exaggerated state of "nerves".

This makes the work of the anaesthetist more difficult, for even with adequate pre-operative medication, the state of mind of the patient at the moment of induction of anaesthesia largely determines not only the degree of difficulty of induction of anaesthesia, but the amount of anaesthetic which will be required during the succeeding thirty to thirty-five minutes of operating, to hold the patient at the desired depth of anaesthesia. Obviously, the total amount of the anaesthetic used, is one factor determining the liability of the patient to subsequent nausea and vomiting.

### *F—Anaesthesia*

Many patients, especially women, dread the last second of consciousness before the jump into the unknown. This special anxiety will have been largely eliminated, if the anaesthetist and the others in the ether-room have inspired the patient with adequate faith in them.

This special fear is however much more simply and more completely overcome by the mere presence of the physician who sent the patient to hospital for operation. Obviously, if faith in this physician did not already exist, the patient would not have followed his advice with regard to operation.

### *G—Cold and Nerves*

Cold and the nervous system do not agree. It is therefore essential to see that on the day of operation, the patient be kept warm from the moment of waking, through the time of leaving bed, through the period of induction of anaesthesia, and through the period of operation, up to and including the return to bed in heated blankets. The amount of heat required to prevent the patient from feeling cold and chilly on the way to the operating room may seem unreasonable to the attendant; but objective shivering is the answer. If this exists, warmed blankets should be added until the shivering ceases. A controlled nervous system will justify the means employed.

## III. OPERATIVE

Such details as attention to the proper placing of small pads under the back, while the patient is on the operating table; avoidance of over-extension of the arms against edges of the table; and care on the part of the anaesthetist to traumatize to a minimum the jaw and neck and face of the patient, will frequently obviate minor discomforts of which the patient on awaking from the anaesthetic, may complain more bitterly than of discomfort directly due to the operation itself.

The use of carbon dioxide at the end of anaesthesia, or at least the use of an anaesthetic of a sufficiently closed type to produce a full pink color[7] of the skin of the face at the end of operation, will in conjunction with the use of enemata of glucose following operation, make an appreciable difference in the ease and smoothness of recovery of the patient from the anaesthetic.

## IV. POST-OPERATIVE

### *A—Control of Nervous System*

Rapid recovery of the patient after operation will be promoted by eliminating the nervous system from consideration. Obviously, this is

best accomplished by adequate use of morphine. Adequate use means the amount necessary to keep the patient asleep or at least in a dozing condition for practically the first forty-eight hours after operation.

In some cases, the amount of morphine required may be found to be large, even to doses of one-third grain or more. This will always be in the nervous worrying type of individual, in whom it is all the more important to produce the result aimed at. It will be found however that in such an individual, one or two large doses may keep the patient quiet for hours at a time; consequently, at the end of twenty-four hours, such a patient may not have required so large a total of morphine on the large-dose principle, as on the more usual routine of more frequently repeated smaller doses.

An intelligent patient is a better judge than the surgeon, of the effects of definite procedures upon the comfort of the patient. If one asks any ten or twenty intelligent patients who have been through major operations both with and without the free use of morphine during the first forty-eight hours after operation, which method most promotes comfort and a smooth recovery from illness, the answer will always favor the method which, by disconnecting the nervous system, stops pain, discomfort and worry.

Some operators fear morphine habits, and other habits such as laziness on the part of the nurse. It is true that, after the first forty-eight hours, there are many ways of promoting or inducing sleep without the use of morphine; and after the first forty-eight hours, they should be used. But in this first and, from the point of view of the nervous system, critical period of recovery, nothing short of disconnecting the nervous system and the emotions by the adequate use of a drug with the action of morphine, will so certainly produce the effects requisite for the initiating of a smooth convalescence.

This morphine effect is important. It is produced with a powerful and potentially dangerous drug, the use of which should be controlled by the surgeon. Its use should not be left as is now too often the case, to the discretion or whim of the nurse.

### *B—Nausea and Vomiting*

Nausea and vomiting should have been largely eliminated by attention to the pre-operative details above mentioned. For that which does occur, it is helpful to alternate clear water with water containing sodium bicarbonate in amounts of about one-half teaspoonful to the glass of water. Not infrequently, when small quantities of clear water, or soda and water are not retained, the patient will retain a half or even an entire glass of the soda and water, if this larger amount be taken in as fast as it can be swallowed. Occasionally, it seems almost as though the stomach were taken by surprise by the amount of fluid forced upon it, with the result that this fluid passes the pylorie sphincter before the sphincter has time to object, thus starting peristalsis in the right direction. If these occasional larger amounts of fluid are not retained, no great harm is done, for they come up easily and in so doing act as an automatic stomach wash-out. Sparkling water is occasionally of great value, either plain or in the form of ginger ale, champagne, etc. Also, albumin water, plain or flavored, should be mentioned in the class of occasional life-savers.

### *C—First Night After Operation*

The first night after operation, is often a bugbear to the patient. It is made so most often by the lurid stories of kind friends and relatives. In any event, it is during this first night that the patient begins to find out what kind of a surgeon, and what kind of a nurse he has. Next to the surgeon, and sometimes it seems even before the surgeon, the nurse is the factor which decides the ease of recovery, or more especially the comfort of recovery of the patient.

#### (1) *Nurse*

Unfortunately, there seem today to be too many nurses who are trained in theory at the expense of bedside practice. In many cases, the fault lies less with the nurse than "higher up"; thus, one superintendent of an important training school tells her nurses that it is less important whether they become good private nurses, than whether they become fitted for administrative work. As a straw in the wind, it might be mentioned that a recent graduate of this same school told a patient who had objected to the very slipshod manner in which her food had been served, that the nurses really knew very little about setting up trays, because during their period of training all trays were brought the ward patients by "maids; and of course the nurses do not have to consider the details of dietary service." If providing a sick patient with tempting, appetizing and well cooked food is not one fundamental reason for having a nurse in a sick room, what are we coming to?

#### (2) *Surgeon*

Even with perfect operating room technique, the first night after operation is almost the key to recovery of the patient. Yet, how many surgeons are there who know from personal experience and observation what happens to a patient throughout the first night following operation; and not knowing this, how is the surgeon to give intelligent directions to his nurse? The answer is that too few surgeons have this personal knowledge. Too few surgeons, even in their medical school days, have as night nurse followed even one patient from the operating

table to the bedside, there to continue to watch beside the patient until the following morning. In consequence, too many details are left with the nurse; and when, as too often happens, the nurse is not one to the manner born, it is the patient who suffers.

As a step toward relief from this situation, the writer would offer the recommendation that, after the manner of clinical obstetrical case work, every medical student before graduation be required to follow a series of not less than ten surgical patients from the operating table to the bedside; the student should thereafter be required to remain on duty as assistant nurse, throughout the whole of the first night after operation. Ten nights thus devoted to bedside clinical work might be enough to suggest to the intelligent medical student, some of the difficulties which may confront the patient during the first night after operation, say between 2 and 4 A. M.

### *D—Small Pillows*

Next to the night nurse, perhaps one of the factors which makes most for comfort in hospital, especially during the first few days following operation, is the presence in the sick room of three or four small pillows both of the down and hair varieties, perhaps six by ten inches in size. One or two such small pillows may give almost instantaneous and very gratifying relief to an aching back or a painful knee or other joint. The patient, or his family, may not know of this detail. All hospitals should provide such small pillows. Failing this, it is the duty of the surgeon to see that such minor comforts are accessible to the patient.

### *E—Massage*

Next in order of usefulness after these small pillows, skillful massage by a competent nurse is perhaps the factor which will most surely tend to promote the comfort and sleep of the patient.

### *F—Sleep*

It has been said that skillful massage tends to promote sleep. One may exist for days and even weeks without other nourishment than water, but one may not live long without sleep; and upon the obtaining of an adequate quantity and quality of sleep will surely depend the rate and quality of convalescence from illness.

Assuming the ministrations of a skillful nurse and surgeon, an absence of undue worries on the part of the patient, and a reasonably normal convalescence, it will prove more difficult or less difficult to obtain for the convalescent patient that sleep which he must have, in accordance with the presence or absence of one or more of the following three factors:

(a) Excessive fatigue.
(b) Inadequate fatigue.
(c) Gonad irritability.

(a) *Excessive fatigue; mental, physical, or both.* This condition is best relieved by sedative physiotherapeutic procedures, especially massage and neutral baths. Stimulation must be avoided.

(b) *Inadequate fatigue; mental, physical, or both.* It is not sufficiently realized that many patients sleep with difficulty, not on account of being too fatigued, but because they are not enough fatigued.

Sleep is a physiologic antidote for fatigue. Usually, normal sleep follows upon a normal degree of fatigue. The treatment of inadequate fatigue, is more work not less work, mental, physical or both. Since the convalescent bed patient is not likely to overwork physically, it is in proportion essential that he should be kept busy mentally. This is easily accomplished through adequate application of the known principles of Occupational Therapy, especially that division of it referred to as Academic Work[4]. Handcraft and other elementary work may suffice for a kindergarten introduction to Occupational Therapy, but it is from an intelligent use of academic or brain work that the best results will be obtained.

(c) *Gonad Irritability.* Too much nonsense and too many smoke screens of verbiage have obscured the view of facts concerning matters sexual, from the non-medical public which must for the most part get its physiology second-hand.

For present purposes, meaning enlightenment of the patient, it is enough to compare gonad irritability to the flow of water over the spillway of a factory dam. At low flood-water, the factory uses all the water back of the dam; there is no surplus. At high flood-water, the excess goes over the spillway, even over the main dam.

In the human, gonad irritability may be compared to a surplus which discharges over the spillway of health and strength. In sickness, there is no surplus, no discharge; all available energy is used for maintenance.

With returning health, excess strength accumulates; it may discharge itself as increased gonad activity.

It is a very old medical observation that, at some stage in normal convalescence, the patient may be troubled with an increasing gonad irritability which clearly indicates the return of a reserve of vitality. This applies to both men and women.

Many convalescent patients, especially women, are unduly disturbed mentally becaue they do not understand this question. Too frequently it is feared that this normal return of gonad irritability is a clear indication, not of normal recovery or strength, but of the onset of some dreaded irregularity in health.

It is for the physician to see that the appearance of this normal aspect of convalescence does not cause in his patient, a disturbance of

the nervous system sufficient to prove a factor in interfering with normal and restful sleep.

Since the patient is likely to be unoccupied mentally at night and therefore in a susceptible frame of mind, it is especially under the heading of a factor disturbing normal sleep, that the writer refers in connection with the subject of sleep, to this question of gonad irritability. The cure for increasing gonad irritability is increased mental occupation. These two activities are antagonistic.

### *G—Diet*

If the patient has been properly prepared for operation by the use of the diet above mentioned, it is a matter of indifference, at least for three or four days following operation, whether there be a movement of the bowels or not. Absence of undesirable material in the bowel at the time of operation, absence of harsh stimulation of the bowel by pre-operative and postoperative catharsis, and absence of unnecessary food products, will in a gratifying number of cases result in the resumption of normal movements of the bowel at three to four days after operation, without the use of the usual deluge of catharties. Absence of intestinal commotion does much to speed the progress of normal recovery. In the average case, the use of an increasing diet should not be forced; it should wait upon increasing appetite. With ample liquids given, few bed patients will suffer through abstention from excess food for a week after operation; and most patients will derive immediate and ultimate benefit from such a temporary rest-cure of the bowel.

### *H—Pulse and Temperature Charts*

On all bedside charts, one finds spaces devoted to the recording of the temperature, the pulse, and the respiration. It seems sometimes in danger of being forgotten that, as the temperature curve suggests the presence or absence of infection, the pulse curve reflects both the results of infection and surgical trauma, and the nervous personality of the patient. The pulse curve and the blood pressure curve, taken together, may rather accurately indicate the degree of nervous stability of the invalid. No patient should be allowed otherwise than flat in bed, or at most in a semi-reclining position for a few minutes of relief from the absolutely flat position, until both the temperature and the pulse curves have definitely returned to their pre-operative levels, or at least until it is proven that one or both of these curves will not return to the pre-operative level within a reasonable length of time. Later, when the patient begins to get about, it is even more essential to continue a close watch upon the stability of the pulse curve; this is the indicator which, if sufficiently frequently recorded, will first reveal any latent neuro-cardiac tendency in the susceptible patient.

### *I—Fatigue*

At the time when the patient first begins to sit up, and later to leave bed, the spectre of fatigue presents itself for consideration. Not only thus early, but throughout the entire duration of convalescence, avoidance of excessive fatigue must be placed before all other considerations, if progress is to be both satisfactory and continuous. It is of no consequence whether the origin of the fatigue be mental or physical or both. The result is the same; physical and mental prostration, irregularities of the heart and circulation, interference with sleep and appetite; and atonic constipation with distension of the intestine from failure to eliminate normally ingested atmospheric air, not to mention other possible difficulties, all combine to delay recovery and make the patient regret the onset of excessive fatigue.

It is known that even in the normal person, fatigue is demonstrable after thirty minutes of effort, either mental or physical. In addition, the curve of fatigue is not an arc of a circle. It is a parabola. This means that the further down the curve one falls, the faster one goes. Furthermore, with increasing duration of fatigue, the time of recovery progressively increases, according to the square, the cube, etc., of the fatigue time factor.

For the above and other reasons, it becomes excessively important to avoid the occurrence of fatigue. This may be most easily and perhaps best accomplished by a system of five-minute rests (in the reclining position), for each thirty minutes of effort.

At first, the total duration of effort allowed may have to be much less than thirty minutes, with the duration of the rest periods greater than five minutes. The patient should not be allowed more than thirty consecutive minutes of effort, followed by the routine five-minute rest period, until convalescence has entered its third or fourth week following a major operation under ether anaesthesia.

It should be further noted that if the patient eats sitting up during the first few days, the fatigue factors are doubled. To a certain extent this special factor may be overcome by insistence upon a glass of water and twenty minutes of flat rest, before the meals are served; but the principle of duplication of the fatigue factors remains the same.

### *J—Reserve Strength*

Though in the normal person fatigue is demonstrable in thirty minutes, no attention is paid to it because the normal person has a fund of reserve strength upon which to call, adequate in emergency to withstand three or more consecutive twenty-four-hour days of work without sleep.

Ordinarily, the calls upon the reserve fund

of the healthy normal adult are made good by replacement of lost energy during a normal night of sleep.

In the semi-invalid or the chronically half well person, the semi-convalescent or the really ill individual, the normal reserve fund of strength may be more or less depleted, even to all intents and purposes exhausted. Until the accumulation of a new reserve of strength, such a patient or individual is condemned to live physically from hand to mouth, on a cash-and-carry basis, unable to borrow strength on credit from reserve.

The patient thus reduced in health reserve to the cash-and-carry basis, can live and work and yet gain strength, only when the half-hour schedule above outlined is strictly adhered to. There must be given no opportunity for possible further descent along the downward path of fatigue. The patient must be made to, and can, recover from each succeeding twenty to thirty minutes of effort, by strict attention to the required five minutes of complete rest in the reclining position. Thus, even under unfavorable conditions, the patient can be kept from slipping downward along the parabolic path of fatigue. Then, with loss of ground prevented, there must occasionally occur favorable breaks which can upon this preventive system be converted into permanent gains by continuous application of the 30:5 minute schedule.

Slowly, intermittently, and on a saw-tooth curve, the patient can be gradually worked up hill,—so to speak pulled out of difficulty by his own boot-straps. Individual ups and downs will of course occur, but viewed on a weekly or monthly basis, the average trend will be upward; and upon a curve which resembles a reverse of the fatigue curve, which is to say that the further uphill the patient gets, the more rapid will be his progress toward health.

Gradually, an adequate reserve will be built up, and the patient may at last become a credit customer in the market of health, freed of the annoyance and domination of cash-and-carry methods.

Especially, the patient must be instructed to do less, not more than usual, on the first two or three "good" days. Thus will come progress. Otherwise, each "good" day with its accompaniment of ambition, overwork, and resultant fatigue, will be followed by a relapse, a setback which follows upon fatigue as surely as night follows day. Such minor relapses may not be wholly recovered from for a week or ten days, and even much longer.

Obviously, the occurrence of a series of such minor relapses from such avoidable causes, may delay the completion of convalescence by days, weeks, even months.

It is not sufficiently clearly appreciated how many thousands of half-cured and semi-invalids we have all about us, on the streets or more or less at work rather than under definite medical observation. Until given a greater margin of physical strength, these subnormals are forced, in order to make even a semi-success of life, to live upon a cash-and-carry basis of health, slipping slowly downward along a descending spiral of strength. Each return to hospital finds them on a lower rung of the ladder of health. Eventually, trivial last straws of illness will, for these unfortunates, precede avoidable death.

## V. SUMMARY

1. Authoritative proof indicates that the normal duration of convalescence, both medical and surgical, averages six weeks.

To date, it is not within the power of the physician or surgeon to decrease below this average of six weeks, the length of time necessary, with or without operation, for complete recovery of the human being from acute and serious illness.

To send the average patient out of acute hospital in the average of three weeks as cured, is merely to add to the thousands of half-cured persons who today bear witness to the failure of medicine to complete its job through intelligent application of known methods of adequate convalescent care.

2. Present surgical methods leave something to be desired, not only in the way of medico-surgical coöperation, but also in the line of continuity of care of the patient.

3. The patient, being human, appreciates not only surgical technique, but the utilization of known procedures which tend to promote peace of mind and bodily comfort.

4. The surgeon could well add to his perfect technique, many small refinements of medical care which tend to keep the patient comfortable and cheerful.

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## Discussion

Dr. Reginald Fitz, Boston: I think tonight has been a very stimulating evening and I feel pleased to have the chance to enter into the discussion of these papers.

Some twenty years ago my father published a paper which he called "The Border-Line Between Medicine and Surgery". I have always liked the title of that paper because it suggests a certain inevitable difference between the point of view of the internist and the surgeon, and since reading that paper I have always

found it interesting to see how that border line has become more and more invisible in certain directions and yet more sharply marked in others. It seems to me that the subject of surgical convalescence is one of the present day border-line problems between medicine and surgery and it is interesting to hear it discussed on the one hand from the surgical point of view by Dr. Lewis and on the other hand from the more medical point of view by Dr. Bryant.

I agree with Dr. Bryant in believing that the problem of surgical convalescence does exist and is important. Certain people will recover from any operative procedure with great rapidity while others will not. Apparently no two people react in exactly the same way to the same operation. There is at present a tendency for surgeons to over-emphasize the importance of the technique and immediate recovery from an operation and to under-emphasize the duration of economic and physical disability which may result from a technically perfect operative procedure. I believe, therefore, that surgeons should come to talk more and more in terms of end-results rather than in terms of immediate operative mortality, and that they should pay as much attention to shortening the length of time before health is regained following an operation as to the technical perfection of the operation itself.

All of the speakers have emphasized the importance of the pre-operative preparation of surgical patients. The methods which have been perfected for preparing patients for various types of operation have gone far to reducing operative mortality rates. It is worth remembering that they have been developed in part from the physiological chemist, in part from the internist and in part from the surgeon. By such team play the border-line problems between medicine and surgery will be abolished, and surgery, as a form of treatment, will be made more perfect.

Dr. Charles A. Porter, F.A.C.S., Boston: To my mind it is most significant that Dr. Lewis, who is able to talk on any surgical subject, should choose to read us a paper on the post-operative treatment of patients. In ordinary operations, the operation itself should be an incident, not a crisis, in the patient's life. In order to make this true, it is often necessary that a patient should have care before as well as after operation. For instance, I was asked to do an operation in Vermont upon a patient with a toxic thyroid. I refused. Later I heard that the patient had been landed in a hospital, operated upon within two hours, and died in two more.

In regard to acute dilatation of the stomach, there are cases in which there is no or little regurgitant vomiting, with no symptoms except general prostration. When one is dealing with a distended tympanitic abdomen it is often difficult to make out whether the stomach is or is not dilated. I believe in such a case that the stomach tube should always be passed.

In cases of suspected peritonitis the surgeon finds his chief use for a stethoscope. If no peristalsis can be heard I believe that all attempts to move the bowels will be futile. I believe in the administration of morphine and heat with what is regarded as Oehsner treatment, so long as such sounds are absent. In the often very difficult diagnosis between peritonitis and intestinal obstruction, the presence or absence of peristaltic sounds is of great significance.

Dr. P. E. Truesdale, F.A.C.S., Fall River: I am entirely unprepared to say a word but I motored 50 miles to hear these papers and the discussion and I feel very well paid for having done so. It seemed almost impossible for any surgeon to cover so many points on the dial of convalescence as was done by Dr. Dean Lewis. There are some phases of the condition of the patient during convalescence, and I think many of them are covered by the operation itself. I believe the care of the convalescence is shaped at the operating table, and the day of the itinerant surgeon has gone by. Surgeons have crystallized; each surgeon has found his work-bench and is sticking to it, and that makes a great difference. To leave one city and to see a patient for the first time and to operate upon that patient with a cursory history and a superficial examination means a tedious and complicated convalescence about which that particular surgeon is going to know very little.

Now speaking about the standpoint of the patient I think that more progress has been made in that phase in the last decade or generation than in any other. I cannot agree with the speaker in regard to the giving of plenty of morphine after the operation. I think morphine should be used with great discrimination after an operation. I find that after a patient has had one hypodermic other hypodermics are usually given to allow the night nurse a little time to herself, and the place for the nurse is with the patient, and there are many other things besides giving hypos of morphine which will help the patient about as well.

I feel very grateful to this Society for the courtesy they have extended to the country doctors in sending notices of meetings like this.

Dr. Dean Lewis, Baltimore: There is no doubt every surgeon is interested in the preparation of the patient for operation, but that is not for me to discuss because my paper was limited to postoperative care. I don't think any surgeon would operate on a thyroid without a study with iodine and of the general metabolism rate. These operations are not emergency operations. My paper is also limited to postoperative care and not to convalescence, and for that reason I touched on the immediate postoperative complications which one sees. I am also

absolutely convinced that some patients are taken care of too long, for instance, I practised in a city where the medical treatment of ulcer of the stomach had great vogue, and the patient after a gastroenterostomy was placed on a medical treatment for eight months. If eight months of medical treatment is required to supplement surgical treatment, surgical treatment should not be employed. You should choose one or the other. Patients may be permanently invalided if placed on a medical treatment after gastroenterostomy or pyloroplasty.

Now sometimes I think that administration of fluid is overdone. I asked a physiologist whether he wanted to have a gastroenterostomy done, and he said he had fluid injected or given by rectum every few hours until he absolutely became sick of fluid. I agree with Dr. Fitz that fluid should be given but I believe that one of the problems is to determine when and how much fluid should be given daily. I have seen patients water-logged by fluid; and that is a thing that should be determined—the amount of fluid that should be given after an operation.

The thing that immediately interests the patient is the complications that arise, and if in the majority of cases pituitrin isn't needed, a lot of catharties are not needed. Patients should be left alone unless complications arise, and complications will not arise if surgery is well done, and no amount of treatment afterwards will correct the error that is made at the time the operation is performed.

DR. JOHN BRYANT, Boston (closing): The main point I was trying to make, is that I believe it to be a fact that it takes not much less than six weeks for complete recovery from the routine surgical procedures, as also from most medical illnesses. At least, it is a fact to me until the contrary is proven.

What is to be done with those six weeks? In them, it should be seen to that the patient is put in condition to return to work really recovered in health.

After such a sequence of events, the patient would less frequently experience the slump in health which under existing conditions so often occurs at eight to ten months after operation,—late enough afterwards so that the possible connection between the operation and the failure of health is frequently minimized, overlooked, or denied. A probable causal factor in this nine-months-postoperative failure of health, is exhaustion of the reserve strength of the patient. This would not have occurred, had the patient been given time and opportunity to replenish his reserve of strength during his first six weeks after operation.

## THE CHANGING CONCEPTION OF DIABETES AS A DISEASE

BY GEORGE H. TUTTLE, M.D.

DURING the last few years the general conception of diabetes has been that of a disease whose cause was to be found in more or less definite and permanent lesions of the Islands of Langerhans of the pancreas. But the results of autopsies have not sustained this view and clinicians are beginning to consider it as a purely functional disease or condition.

Just at this time it will be interesting to glance at the results of two notable groups of autopsies, one of Labbe, made in 1922, and another by Root and Warren made in 1925, but first it is necessary to look at a set of non-diabetic autopsies, also by Labbe, in order to properly evaluate the lesions shown.

Non-diabetic autopsies (37) by Labbe, (pp. 188-189): "Out of a total of 37 subjects dying from various acute or chronic affections, the pancreas was normal in (only) 7: in all the other cases the gland presented more or less extensive lesions. . . . Sclerosis of the glandular acini is very common, since it was found in various degrees in 27 out of 37 cases. Adiposis was noted in over 50% of the cases. As to Langerhans Islands . . . they were normal (only) 8 times out of 37 autopsies; in all the other cases there was some morbid change. Even if only mild; the number or size differed from the norm, or the sclerosis invaded the islands to a certain extent.

DIABETIC AUTOPSIES (18) BY LABBE 1922

Results and Conclusions

*Sclerosis* 1 case—Complete
5 cases—Intense
6 cases—Very mild
6 cases—Completely absent.

"(Since) animal experiments show that in order to produce diabetes the pancreas must be almost completely excised, and that if only a small portion of the gland remains—for example, about one-fifth—diabetes does not ensue. Hence the sclerosis must be very intense in order that an almost complete destruction of the glands shall take place. . . . In the majority of cases, pancreatic sclerosis cannot therefore be regarded as the cause of diabetes." Labbe, p. 189.

*Adiposis.* "Fatty infiltration of the pancreas has still a lesser significance; it is quite as common in non-diabetic subjects as in those with diabetes. . . . The pancreas will be fatty in obese individuals and free from fat in those who are thin, whether or not the subject is diabetic." Labbe, pp. 189-190.

*Lesions of Langerhans Islands.* "Like other observers I have rather frequently met with lesions of the islands, especially sclerosis and hyaline infiltration; but these lesions do not appear to me characteristic, because I have seen an insular sclerosis quite as well developed in non-diabetic pancreatitis, while in other instances I have met with hyaline infiltration of the islands when no diabetes was present. . . . And what is more, the lesions never involved all the islands, and the development of diabetes cannot be accounted for by a lesion of only a few. . . . Hence it is difficult to understand how a lesion of a portion only of the islands can bring about diabetes when it is known that one-fifth of the gland is enough to prevent the development of glycoregulator disturbance. . . . Another thing claimed my attention—namely, the want of correlation between the gravity of the diabetes and the degree of the pancreatic lesions." Labbe, pp. 190, 192.

DIABETIC AUTOPSIES (26) BY ROOT AND WARREN 1925-26

Lesions of the Islands of Langerhans in 26 Autopsies

Number—Normal 20, Few 6
Sclerosis—Found in 6 cases
Hyalinization—Found in 13 cases
Lymphocytes—Found in 3 cases
Normal—In 5 cases.

"No one distinctive lesion of the islands was found in this series."

"One important feature of the pathologic changes is the wide variation in the condition of the islands in the same pancreas and even in the same section. We found no pancreas in this series without a greater or less number of apparently normal islands no matter how severe the clinical features or how marked the changes in some of the islands."

"No correlation between diabetic coma and pathology was found."

"One wonders whether the morphologic changes in the islands may not be the result rather than the cause of the disease."—BOSTON MEDICAL AND SURGICAL JOURNAL, January 14, 1926.

After a careful consideration of the preceding results of autopsies, it is perfectly evident that no satisfactory explanation of the pathology of diabetes can be found in the pancreas after death. On the other hand, considered as a functional disease, in which the function of the pancreas increases or decreases according as the islands increase or decrease, diabetes becomes more easily explainable, and moreover gives us the hope that, at least in all but the firmly established severe cases, the condition is not incurable, but is temporary and susceptible of improvement. And it may be that with improved methods of treatment of mild cases, the islands may be completely restored.

Since our hopes for a cure of such cases, depend upon our ability to raise the tolerance by the slow stimulation of added carbohydrate food with other therapeutic aids, it will be interesting to note that two French observers, Gelle and Labbe, have studied the histological process as it actually occurs in the transitional forms of change from acini to islands and vice versa, in the pancreas. When the tolerance rises there are found an increasing number of acini changing to islands. When the tolerance falls the islands retrogress to acini. (Labbe, p. 191.) This change, or flux, is going on continually in the pancreas in both diabetic and normal states.

And we believe that it is directly proportional to the functional strain put upon these delicate units by the food ingested. It is for this reason that the rational way to increase the tolerance, in striving for a cure in mild or moderate cases of diabetes, is to rest the pancreas either, by holding the food at the level of the natural tolerance for a month or more; or by resting the pancreas by means of small amounts of insulin for a like period; and then to slowly raise the tolerance by adding food gradually to the diet. This added carbohydrate food stimulates the change of the acinous to insular units, increases the number of islands, and thus makes the pancreas produce more insulin, which is the object of our treatment, and the only way in which diabetes can be cured.

In conclusion I would like to call attention to the fact that most so-called diabetic deaths are not due to diabetes, but to more fatal diseases acting upon a diabetic ground work. In Root and Warren's autopsies only 4 out of 26 deaths were due to diabetes itself. Whereas 22 were due to such overpowering complications as Pneumonia, Septicaemia, Angina Pectoris, Thrombosis, Chronic Nephritis, Cancer of Pancreas, Abscess of the Liver, etc., etc. We should realize, then, that true diabetes is Primary Functional Diabetes and nothing else, however many deaths may occur from other diseases complicating that state.

## CUMULATIVE IMMUNITY FROM HAY FEVER PREVENTIVE INOCULATIONS*

BY A. G. GOULD, PH.B., M.D.

AT various times there have appeared in the different medical journals statements regarding the curative value of hay-fever preventive inoculations. Some of these statements have had a very optimistic tone and would lead one to believe that after several seasons of preventive

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treatment one could stop and would have sufficient cumulative immunity to carry him symptomless for some future years. Others have been more conservative and have advised treatment annually on the basis of there being little or no cumulative immunity.

Citation of a few of these statements will give the reader an idea of the diversity of opinions of workers in this field of preventive medicine.

"The amount of work which has been done on the subject of hay-fever, and the voluminous literature which has accumulated so rapidly in the last few years, have done much to place the care of this disease on a satisfactory basis and to permit hay-fever to be classed, at last, as a curable disease. . . . Not one was completely cured, if we understand cure to mean an absolute absence of any symptoms. While the failure to secure complete cures is disappointing, the value of pollen treatment as an ameliorating agent is proved"[1].

"At present I do not think that we can hold out to our patients the hope of permanent immunity. Occasionally a case is apparently cured by one or more years' treatment, but these cases are prone to relapse, and it is safer to advise treatment each year"[2].

"If the pollen injections are continued year after year there seems to be a tendency in some cases toward a permanent cure; but too much encouragement should not be held out in this direction, as many of our patients have been treated for eight or ten years and yet show signs of trouble if they omit the injections for more than a year or two. Many cases show a natural tendency to outgrow the disease, and this should be aided by injections until negative skin and eye reactions show that the patient may be safely allowed to go without treatment"[3].

"In cases of recent origin one course of treatment is usually sufficient but in cases of longer standing two or three courses are required"[4].

"The treatment has to be given each year on account of the fact that the effect lasts but a comparatively short time"[5].

TABLE 1

STUDY OF CUMULATIVE IMMUNITY AFTER ONE SEASON OF TREATMENT

| % Relief with treatment | % Relief or condition without treatment | | |
|---|---|---|---|
| 1 year only | 1st year | 2nd year | 3rd year |
| 50 | Less than 50 | Zero | Zero |
| 35 | Less than 35 | Less than 35 | Slightly over |
| 80 | In Europe | 95 | ? [35 |
| 100 | 100 | 100 | 100 |
| 95 | 95 | 95 | ? |
| 80 | 75 | 75 | Zero |
| 100 | 95 | 95 | ? |
| 90 | 90 | 90 | Better than before treatment |
| 75 | In Europe | Zero | 100 |
| 50 | Zero | Zero | ? |

"With the pollen cases, an attempt is made only to protect for the ensuing season, and as outlined in the previous chapter, the more thorough the treatment the greater the degree of protection. If pollen cases were treated as long and as consistently as are the animal hair protein cases, many patients would probably be entirely free of symptoms for years, if not throughout life"[6].

This last sentence probably refers to[7]: "As the amount of treatment progressively increases, the positiveness of the skin test progressively diminishes until, if treatment is carried on long enough, the skin test becomes negative with concentrated protein and the patient becomes absolutely desensitized".

Piness[8] does not believe we have yet reached a point where permanent immunity can be expected.

Almost all patients receiving preventive hay-fever treatment ask how many seasons they will need to continue such treatments. This is a difficult question to answer and I believe it is necessary to be very conservative in our replies and avoid stating any definite number of seasons of treatment as furnishing complete immunity either for one or more seasons.

TABLE 2

STUDY OF CUMULATIVE IMMUNITY AFTER TWO SEASONS OF TREATMENT

| % Relief with treatment | | % Relief or condition without treatment | |
|---|---|---|---|
| 1st year | 2nd year | 1st year | 2nd year |
| 50 | 75 | 75 | * |
| 90 | 80 | 95 | 95 |
| 90 | 100 | 95 | 100 |
| 85 | 95 | 100 | 100 |
| 85 | 100 | 100 | 100 |
| 70 | 70 | Severe | * |
| 100 | 100 | 100 | 100 |
| 50 | 60 | 50 | 60 |
| 50 | 65 | Severe | * |
| 20 | 75 | Severe | ? |
| 75 | 50 | 20 | 80 |
| 90 | 80 | 95 | 100 |

*For these patients 1926 constitutes the second year without treatment.

I have made a study of the cumulative immunity in patients treated one, two, and three years. Examination of the data indicates that some apparently do have a worth-while cumulative immunity and others do not. The means of judging the presence or absence of cumulative immunity have been entirely by the amount of symptoms and signs as felt and seen by the patient. These figures indicating amounts of relief are probably not accurate and are influenced by physical factors of varying degrees in the different years. The comparisons of years without and with treatment are however so striking that I feel certain conclusions can be drawn from the figures.

Apparently the factor of the human equation is a great one in the years with and without treatments. Two individuals from the same community having about the same objective degree of hay-fever are apt to show under treatment various amounts of relief even when treated with the same kind and lot of pollen extract. Two individuals under similar conditions receiving about the same amount of relief from preventive inoculations are very apt to show in years without treatment different amounts of cumulative immunity. One may apparently retain considerable immunity and the other none or very little.

TABLE 3

STUDY OF CUMULATIVE IMMUNITY AFTER THREE SEASONS OF TREATMENT

| % Relief with treatment | | | % Relief without treatment |
|---|---|---|---|
| 1st year | 2nd year | 3rd year | 1st year (1925) |
| 85 | 75 | 55 | 50 |
| 50 | 75 | 50 | 25 |
| 10 | 80 | 50 | 50 |
| 40 | 40 | 20 | 15 |
| 50 | 75 | 50 | 50 |
| 25 | 80 | 50 | 50 |
| 70 | 50 | 50 | 50 |
| 75 | 85 | 45 | Zero |
| 70 | 70 | 90 | Zero |
| 70 | 70 | 70 | 90 |
| Zero | 80 | 80 | 90 |

CONCLUSIONS

Cumulative immunity in some cases may be acquired after one, two, or three seasons of preventive hay-fever inoculations; in others it may not be acquired.

There apparently is a personal equation involved in the production of cumulative immunity.

Statements to patients as to the amount and duration of the cumulative immunity should be guarded.

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## PUBLIC HEALTH CONFERENCE

A PRELIMINARY announcement has been made of a conference on "The Aims and Purposes of Public Health and Its Various Branches," sponsored by the Massachusetts Central Health Council, to be held in Boston, June 15, 1926.

The conference will open with a luncheon at the Hotel Westminster at 12:30 P. M., followed by two meetings which will be held at the same time, one at the hotel and one at the John Hancock Auditorium (which is near the hotel), both beginning at 2 and ending at 5 P. M.

Following these two afternoon meetings there will be a dinner at the Hotel Westminster at 6:30 P. M. After the dinner Mr. George E. Vincent, president of the Rockefeller Foundation, will give an address on "The Aims and Purposes of Public Health."

The presiding officers will be:

At the luncheon and dinner, Dr. William H. Robey, president of the Massachusetts Central Health Council.

At the meeting in the John Hancock Auditorium, Dr. George E. Bigelow, State Commissioner of Public Health.

At the meeting in the Hotel Westminster, Miss Gertrude W. Peabody, president of the Massachusetts Association of Directors of Public Health Nursing Organizations.

The organizations which are to participate in this conference, and the speakers who are to represent them, are as follows.

Dental Hygiene Council of Massachusetts—Dr. Harold DeWitt Cross, president.

Massachusetts Association of Boards of Health—John J. McGrath, president.

Massachusetts Association of Directors of Public Health Nursing—Mrs. Agnes T. Marvin, secretary.

Massachusetts State Department of Public Health—Dr. George H. Bigelow, Commissioner.

Massachusetts Medical Society—Dr. Roger I. Lee, Committee on Public Health.

Massachusetts Society for Mental Hygiene—Dr. C. Macfie Campbell, president.

Massachusetts Society for Social Hygiene—Burton L. Hess, secretary.

Massachusetts Tuberculosis League—Dr. Edward O. Otis, honorary president.

Boston Council of Social Agencies—Robert W. Kelso, executive secretary.

Industrial Hygiene—Dr. D. C. Parmenter, Industrial Clinic, Massachusetts General Hospital.

Three additional organizations which will also take part but whose representatives are not yet chosen are: Massachusetts Committee, American Society for Control of Cancer; New England Heart Association; Massachusetts Veterinary Medical Association.

Each of these speakers will discuss the aims and purposes of that branch of public health in which the organization he represents is particularly interested.

Further information may be obtained by writing to Dr. Henry B. Elkind, Secretary, Massachusetts Central Health Council, 5 Joy Street, Boston.

A more complete announcement will be sent out later.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY
RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

## CASE 12201

## PARTIAL COMA. CAUSE?

### MEDICAL DEPARTMENT

An Irish-American plumber forty-three years old entered October 13 complaining of severe headache of a week's duration. The history taking was complicated by transient periods of deafness requiring written questions. One brother was very "nervous", had a bad disposition and a bad temper. At eighteen and four times before that the patient had gonorrhea. In childhood he had tonsillitis once a year. He had not had it for years. Eight years before admission he used to have numbness in the right leg and five years before admission numbness of the fingers. He had not had this for two years. For ten years he had been "nervous", possibly because of worry over business affairs. Six years before admission he had "pleurisy",—pain around the heart and side for hours.

Four months before admission after heavy lifting he suddenly became very dizzy and "sick at his stomach", but not nauseated. He thought he felt a crack in his back. He was helped home and went to bed. His chief complaint was a constant dull ache in the left lumbosacral region and at times in his left leg. The pain kept him awake at night and was only slightly relieved by mustard plasters. During the next ten weeks this gradually passed off. He could not remember how long he was ill. For ten weeks he had little appetite and for the first five weeks he ate "about one egg". His weight fell from 210 pounds to 133 at the end of ten weeks. During the ten weeks his skin was brownish yellow. At present the skin was scaling. His only other symptoms were chills, sweats and fever. The chills occurred once or twice a week, usually just after luncheon, keeping him in bed, heavily blanketed, until five o'clock, then followed by sweating, leaving him feeling tired out. His temperature was once 103.5°. During the past four weeks he had only two chills, not very severe. During the illness his bowels had been constipated. After ten weeks he was up and about, feeling fairly well, but did not work.

Eight days before admission, after taking two "balls", he felt "queer" after going to bed, wept, and could not sleep. Next morning he had sudden severe headache, as if a mallet had struck him. The pain began at the posterior base of the head and extended over the whole head. He jumped out of bed and called for a doctor. The headache had remained unrelieved up to the present time, except for slight help from a hot water bottle. Since the onset he had had nausea and had vomited all food. In fact he had eaten only two slices of toast all the week. He remained in bed most of the week and had slept little. He has been taking quinine and had had ringing in the ears all the week. The day before admission while standing up he suddenly fell against the wall. He was unable to hold a cigarette in either hand, to find his pockets, or to talk, though he could mumble. The headache was present as usual. During the night he slept restlessly every other forty minutes, with terrible dreams. On his way to the hospital he noticed periods of deafness. At times during the history taking he jumbled words. At admission he was nauseated and refused food.

His wife added a history of excesses of alcoholism every few weeks during the past few years. At times he had had hallucinations of vision. A few weeks before admission he had a visible lump in the left kidney region which had since disappeared. All his life he had had keratosis pilaris. His mother died "just as he is now".

Examination showed a well nourished man, very stuporous. The epithelium of the face and entire body was desquamating. On the face was a certain amount of moisture, suggesting underlying vesicular lesions. There was a sharp line of demarcation just within the hair line on the scalp. There was marked pigmentation on the back of the hands. The ears were plugged with wax. The teeth were very bad. There was marked pyorrhea. The conjunctivae were covered with little yellow sand-like spots with here and there a lesion the size of a pinhead, suggesting a small vesicle. The neck was stiff. There were small glands in the left axilla. The heart was negative. The lungs were negative except for atelectatic râles at the bases, which disappeared. The liver edge was 3 cm. below the costal margin. The pupils were normal. There was bilateral Oppenheim and Gordon. Babinski was doubtful. The skin was practically anesthetic everywhere to pin prick. The fundi were normal.

The temperature was 98.2° to 99.8° with a terminal rise to 105°. The pulse was 61 to 89 with a terminal rise to 148. The respirations were normal until a terminal rise to 42. The heart was negative. The blood pressure was 115/70 to 143/88. The urine was reddish at one of two examinations, specific gravity 1.013 to 1.022, bile at one examination, some red

blood cells and a few leucocytes at one. The amount of urine was normal. The hemoglobin was 75 per cent., the reds 4,400,000, the leucocytes 19,000 to 13,800, the polynuclears 57 per cent. The entrance smear showed no abnormalities. October 16 one stippled cell and a few unclassified cells were found; no malarial parasites. A Wassermann was negative. The non-protein nitrogen was 29 mgm.

October 13 a lumbar puncture gave 15 c.c. of bloody fluid showing 40,000 cells, 425 leucocytes, 10 per cent. polymorphonuclears, 90 per cent. lymphocytes. The smear showed no organisms. The cells on settling left a xanthochromic fluid. Wassermann and alcohol negative. The initial pressure was 350, the jugular pressure 500, jugular release 260, after withdrawal of 15 c.c. 40. The pulse and respiration were normal, total protein 198, goldsol 0000111000, sugar 50.

The symptoms and signs were inconstant. The patient's answers to questions were often almost reliable. Then at times he assumed an attitude of decerebrate rigidity, the extensors predominating, and became unconscious. A skin consultant thought the desquamation might be exfoliation subsequent to a quinine dermatitis or possibly due to his marked keratosis pilaris. October 14 he was catheterized and 460 c.c. of urine withdrawn. October 15 a blood culture showed no growth. That day his sensorium was more clouded. In the evening he had an attack in which he ground his teeth, waved his right arm, and moved his right leg. This was fairly well controlled by scopolamin gr. 1/100 s.c. The following day he was in unbroken coma, with stertorous breathing. The lungs gradually filled up. The respiration became very slow. That evening he died of respiratory failure.

## Discussion

### BY RICHARD C. CABOT, M.D.

### NOTES ON THE HISTORY

There are all kinds of possibilities which might be connected with the present illness, but the probabilty is that none of them has any connection at all,—that looking back after we know the necropsy findings we shall say that all of this first paragraph does not help us.

We do not know exactly what "sick at his stomach" means—perhaps pain. This may perfectly well have been a sacroiliac slip with a sciatica at the start.

This statement about "one egg" is a quotation from his account. We do not know what it meant.

Chills and fever of course could not possibly come from sacroiliac sciatica. They show that we have some other thing coming on.

I judge that this man had ten weeks when he was very sick and then four weeks when he had been up and feeling better. So that we seem to have had, beginning four months or sixteen weeks back, an illness which started as if it might have been due to a strain and local orthopedic injury, which later showed that either something new had come in or that we had misinterpreted the first, because he had obviously an infection which lasted ten weeks and then got better during four weeks.

His headache has remained unrelieved for eight days, so that it cannot be called a post-alcoholic headache.

Presumably the principle in his statement about sleep is in his reminiscence of "forty winks". Otherwise it is a little too mathematical to be probable.

His hallucinations of vision might well have gone with his alcoholic excesses.

* * * * *

We have evidence of a brain disease, and I should say that we ought to concentrate our attention on the study of his brain. Whether that is all I am not prepared to say. But he ought to have some organic brain disease, as shown by headache, dizziness to the point of falling over, nausea and vomiting, changes in his speech, periods of deafness, lack of control apparently of his hands. That could be due to general paralysis of the insane, syphilis of the brain. It might be due to cerebral tumor, although in that case we should be a little surprised that nothing more is said about eyesight or localizing symptoms, because there is nothing to localize this to one side of the body. It would not be likely to be due to meningitis, either tuberculous or otitic or meningococcus meningitis. It could be due to uremia or kidney disease.

### NOTES ON THE PHYSICAL EXAMINATION

"The neck was stiff" is unequivocally stated and is certainly meant to be a statement of a pathological condition.

I doubt that the skin was anesthetic everywhere. I do not see how we are going to test such a thing as that with a man stuporous, and such a generally distributed anesthesia as that is not probable.

Fundi normal and knee-jerks normal are important statements.

Nothing is said as to muscular power or coördination.

The physical examination thus far leaves me still quite uncertain as to what is the matter with him. The stiff neck and the stupor, the Gordon and Oppenheim are the most definite things, all pointing to brain disease.

I do not know enough about skin lesions to know whether these underlying lesions are likely to be the same process which we see on his skin or not.

Miss Painter: Dr. Charles J. White said in consultation, "There may be two processes at

work here, one a quinine dermatitis and subsequent exfoliation, or the whole picture may be explained by the fact that the man has a marked keratosis pilaris which in places has become confluent enough to rate as a mild ichthyosis".

DR. CABOT: Presumably neither of these processes has anything to do with the condition from which he is dying. We are looking then for the cause of stupor and stiff neck, with normal fundi, pigmented hands, and that is all, so far.

DR. RICHARDSON: Did Dr. White say anything about the pigmentation?

DR. CABOT: He did not. Apparently he disregarded it.

DR. RICHARDSON: Then you may discount that.

DR. CABOT: I was a little afraid we might have to consider pellagra, and I always hate to consider it because I do not know anything about it.

He was essentially afebrile, I think we have to say. This is not the temperature of any type of meningitis. There is nothing characteristic in the pulse. The blood pressure is perfectly normal. And it is on the whole a normal urine. We have no reason to accuse the kidneys. He is reported to have had a lump over one kidney. That apparently was not found here. This is essentially normal blood. It cannot have contributed in any important way to his death. The non-protein nitrogen is normal.

We still have no diagnosis. We have many negative points, but I think we can say that his internal viscera, aside from the nervous system, show no lesions yet.

The lumbar fluid showed 40,000 cells, 39,575 of which are obviously red cells, and 425 white cells. Of these 425 leucocytes apparently only ten per cent. are polynuclears, which has some significance because of the contrast with the peripheral blood, with fifty-seven per cent. of polynuclears. It is a pity this was such a bloody fluid, because it makes it much less clean cut. It certainly looks like a chronic meningitis, syphilitic or tuberculous.

"The cells on settling left a xanthochromic fluid", that is to say a fluid in which there has been old blood, giving the tinge that it sometimes has when we have a spinal cord tumor, or if there has been blood in the spinal canal for some time.

The goldsol is not characteristic in any way and the sugar is not characteristic in any way. The most essential thing here is the increase as I take it—although I wish it were a little surer—the increase of lymphocytic cells.

### DIFFERENTIAL DIAGNOSIS

I do not see any reason to change the first impression that we had of this case, as an organic brain disease. If Dr. Richardson says it is not organic brain disease I shall not know what to say. I do not see how it can be anything else. We have nothing to accuse the internal viscera of, and no good evidence of the kind of acute infection that might give us cerebral symptoms, such as we should get with pneumonia, typhoid, or septicemia.

What organic brain disease? The commonest of course are those connected with the vessels. He is forty-three, rather young for vascular brain disease, but not too young, especially when it is of syphilitic origin, as it well might be. Against vascular brain disease is the absence of any sudden onset, especially of any sudden onset of unconsciousness. We have never had anything like a stroke or paralysis anywhere. His blood pressure is low. There is blood in his spinal fluid, but we do not know that that was not put in during the tap.

MISS PAINTER: There is a note that it was in all tubes.

DR. CABOT: That is important. The presence of blood in all tubes seems to make it pretty probable that it was not introduced in process of tapping, and was in the spinal canal. Blood in the spinal canal is evidence of hemorrhage either in the brain or in the spinal canal itself. Nevertheless it seems to me that cerebral hemorrhage is not probable with such a spinal fluid (90% lymphocytes).

Cerebral tumor on the whole does not seem to me probable either. A man does not die of cerebral tumor with normal fundi ordinarily. He should not have the sort of spinal fluid that he has with a cerebral tumor.

We must not forget that this man's history before the cerebral symptoms became so marked was one of infectious disease with chills. It was very probably with sepsis. Sepsis, especially when it is in any way concerned with the lungs, is prone to give us cerebral abscess. Can this be cerebral abscess? I cannot exclude it. I do not know anything here that cerebral abscess might not explain. But most cases of cerebral abscess show some focal localizing symptoms like tumor or hemorrhage. They act like a foreign body. And we have no evidence as to where his abscess should have come from, not much of anything to suggest abscess of the lungs, which is the commonest source of cerebral abscess, and nothing wrong with his ears. It is true he has had deafness, but it does not seem to be more on one side than the other, and there is no pain to make us think of otitis. His ears being plugged with wax, we have had no examination of the drum, so it is possible that we have overlooked something there.

Now if this is not vascular disease and not abscess or tumor, we have left some form of syphilitic meningitis or tuberculous meningitis. The first thing against syphilitic meningitis is the absence of any Wassermann either in the blood or in the spinal fluid. The second

is that nobody ever makes that diagnosis post-mortem here, so there is no use in our making it beforehand. They won't back us up. He has no evidence of tabes or of syphilitic disease lower down. The course is not that of general paralysis of the insane. It is too rapid. I do not believe he will show syphilis of the brain.

I have nothing left except tuberculous meningitis or possibly a chronic meningitis due to a meningococcus, which can show a lymphocytic fluid when it has been going on for some time. I should think we had to say he has a meningitis, either tuberculous or meningococcus. If he has an abscess discharging into the canal that would also be a meningitis. I cannot say anything more than I have as to the possibility of abscess. On the whole it seems to me improbable. On the whole therefore I come down to meningitis as the most probable thing.

We may stop for a moment to inquire whether we could get this picture with poliomyelitis or with sleeping sickness, encephalitis lethargica. I do not see that he has much to suggest either of those two diseases. He has never had anything like a cranial nerve paralysis or any of the disorders of motion, choreiform or jerking movements. Without any of those we cannot diagnose encephalitis, especially when the headache is so intense as here.

The thing that bothers me most is the blood in the spinal fluid. I have seen that with acute meningitis. But this is not acute. It is rather chronic. The stiff condition that is described here at the end, the rigidity of the extensors, I have seen a number of times with hemorrhage. That tends to make me still more anxious about my explanation of the blood in his spinal fluid. But he would have no possible right to have the lymphocytic spinal fluid here described if he had cerebral hemorrhage and nothing else. On the other hand, meningitis can give us just such a rigidity as this,—chronic meningitis, due either to tuberculosis or to a septic organism or to the meningococcus. We have had no bacteriology, and that is rather in favor of tuberculosis. When we find no organism the chance of being tuberculosis is best. So if I had to put the final touch on it I should say tuberculous meningitis.

DR. RICHARDSON: Was that a lymphocytic fluid?

DR. CABOT: It was a lymphocytic fluid as well as I can make out. It is true there was also blood in it.

A PHYSICIAN: Is it common to have normal eye-grounds in meningitis?

DR. CABOT: Yes, at the onset. Of course that report was near the beginning. Certainly there are many cases of normal eye-grounds in meningitis.

A PHYSICIAN: His history of chronic alcoholism,—might it indicate pachymeningitis?

DR. CABOT: I am glad you spoke of that. The trouble is there is no symptomatology of hemorrhagic pachymeningitis. That is a pathologist's entity. He is alcoholic, and alcoholics do have pachymeningitis hemorrhagica in layers. But as I know nothing about the symptomatology of that and never saw anybody who did, I cannot say anything about it. In all the cases I have found at necropsy it had not been suspected in the least during life.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Cerebral hemorrhage.
Hypostatic pneumonia.

DR. RICHARD C. CABOT'S DIAGNOSIS

Tuberculous meningitis.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*
   Pial hemorrhage, slight.
2. *Secondary or terminal lesions*
   Flabby myocardium.
   Dilatation of the heart.
   Congestion of the lungs, liver and kidneys.
   Cirrhosis of the liver.
   Soft spleen.
3. *Historical landmarks*
   Slight chronic pleuritis, left.
   Retroperitoneal teratoid tumor.

DR. RICHARDSON: Head. The pia over the convexities and between the frontal lobes was coated with a layer of blood clot and blood. The vessels of Willis were negative except that the pial vessels were engorged, more especially in the region of the hemorrhage. The brain, which weighed 1365 grams, showed no lesions. The sinuses, middle ears, pineal and pituitary glands were negative.

Trunk. The skin as he appeared on the table was dirty, rough-looking, such as is seen in old alcoholics. I could make out no definite icterus, although he did have some cirrhosis of the liver. There was no ascites.

The gastro-intestinal tract and the mesenteric, retroperitoneal and bronchial glands were negative.

The heart weighed 320 grams. The only noteworthy things about it were a very flabby thin myocardium and considerable dilatation on each side. Microscopic examination of the myocardium showed nothing definite in the way of myocarditis. It was a thin, flabby, toneless muscle associated with dilatation of the heart. The valve circumferences were as follows: mitral 11.5 cm., aortic 7 cm., tricuspid 13.5 cm., pulmonary 8.5 cm. These circumferences, the mitral more especially, were a little increased. The valves otherwise were negative. There was a slight amount of fibrous sclerosis in the aorta.

The liver weighed 1685 grams, the surfaces rather smooth, but the tissue showed increased consistence and granular section surfaces rather

generally. Under the microscope there was increase in connective tissue, more especially along the portal canals,—cirrhosis.

The gall-bladder, bile ducts, pancreas, and duct of Wirsung were out of the picture. The spleen was negative. The adrenals were negative; but in the region of the left adrenal, the upper pole of the kidney, and the retroperitoneal tissues, and pushing in toward the spinal column, there was a small mass of firm fibrofatty tissue. The mass consisted of fibrous tissue, nerves, and a few epithelium-like cells in places arranged around a common center. It had, of course, nothing to do with the man's death, and was regarded as a teratoid tumor.

He had the hemorrhage and cirrhosis and congestion mentioned. Otherwise I could find nothing.

DR. CABOT: Is there anything in the cerebral vessels that would explain the hemorrhage?

DR. RICHARDSON: Nothing except the engorgement of the pial vessels. There was no definite pachymeningitis.

DR. CABOT: Was it spread pretty well over the convexities?

DR. RICHARDSON: Yes, and down in between the frontal lobes.

DR. CABOT: Is that what killed him?

DR. RICHARDSON: It was a factor.

A PHYSICIAN: Do you call this dilatation of the heart?

DR. RICHARDSON: Yes.

DR. CABOT: Do you think it had anything to do with his death?

DR. RICHARDSON: I think it was a factor. It is one of the things we find in old alcoholics. Of course chronic alcoholism is presumably chronic poisoning, and all the more so in these latter years, considering the stuff they take.

DR. CABOT: Was there any evidence of trauma about the skull?

DR. RICHARDSON: No.

A PHYSICIAN: Do you think the doses of quinine may have had something to do with it?

DR. CABOT: Of course quinine does cause cerebral congestion, but I never heard of its causing cerebral hemorrhage. The thing that we have to remember, looking back on our mistake, is that I certainly was fooled by the spinal fluid. A lymphocytic spinal fluid, if it is true, with cerebral hemorrhage is a new one to me. I do not quite believe it. I think if we had been there we should have recorded a different kind of fluid.

## CASE 12202

## A CASE OF BACTERIAL ASTHMA SUCCESSFULLY TREATED WITH VACCINE

MEDICAL DEPARTMENT

A telegraph operator fifty-three years old was first seen in October 1923, when he gave the following history:

About eight or nine years ago he began having two very heavy colds a year. They started in his head, working down into his chest, and were usually accompanied by some fever. Ordinarily these colds would last for a week, confining him to bed for a few days each time. Previous to the age of forty-five his head colds were much less severe. His recovery from each of these colds was always complete, and between times he felt well until three and a half years ago, when at the age of forty-nine dyspnea on exertion following a severe cold was first observed. Since that time this dyspnea has been present more or less constantly, but has not been severe until within the past few weeks, that is since September 1923. During the same interval his chest has become at times quite wheezy and he has to clear his throat for relief. A coughing attack occurs every morning, and results in a moderate quantity of white frothy sputum, sometimes yellow, but never pink, bloody, or foul smelling. The amount raised is never more than two tablespoonfuls, and is usually raised early in the morning. He has noticed no hoarseness. Since September 1923 his shortness of breath is likewise worse, so that one flight of stairs will "wind" him. His energy is much less and he gets tired quickly, but so far he has never been obliged to leave his work except at the times mentioned, when the colds kept him in bed. When he arrives at the downtown office in the morning and when he reaches home in Arlington at night he is usually very short of breath, but becomes comfortable after sitting quietly for a few minutes. There has never been any swelling of his ankles or hands. He has had no dizziness or fainting, no chest pain, and no palpitation except with the dyspnea. Lying on his right side at night brings on the cough, but otherwise he sleeps well and needs only one pillow.

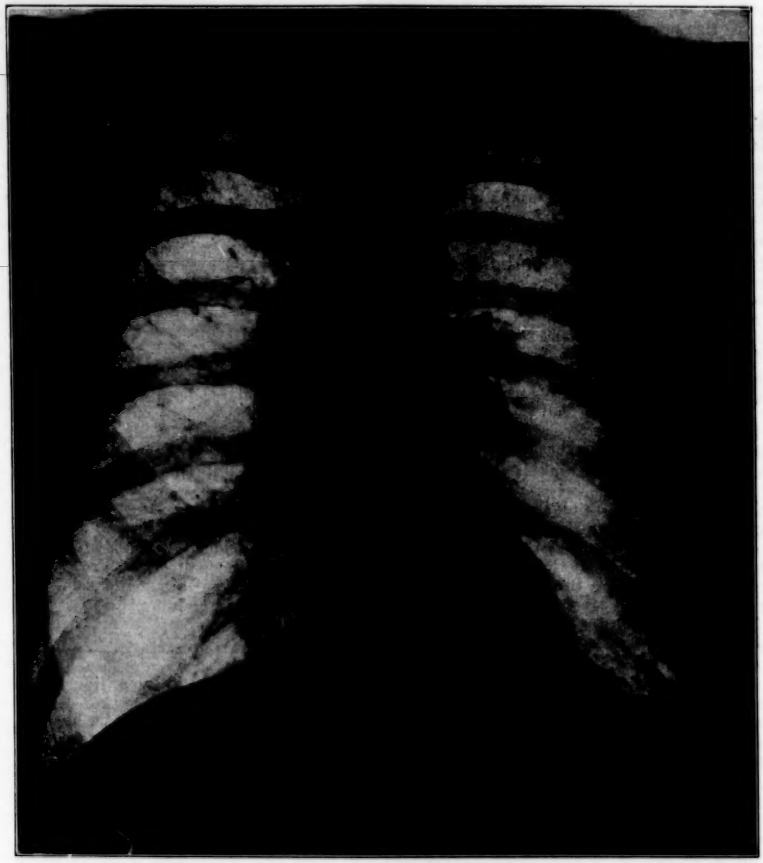
His other functions are essentially normal. He has a good appetite, eats very light breakfast, a light lunch, but a heavy dinner at night. He has no nausea or vomiting, but occasionally some gas on his stomach. The bowels move regularly without medicine, often twice a day. He has never been jaundiced. He has no abdominal pain. Nycturia is rare. He has no headaches. Glasses correct a slight error in refraction. Aside from dyspnea his health is good.

In times past he has had tonsillitis on several occasions, including two severe attacks ten and thirteen years ago, but his tonsils and adenoids are still in. In 1918 he escaped influenza. He has had no rheumatic fever or other serious illness since exanthemata of childhood.

His habits are good. He smokes a pipe almost all day, and usually two cigars; cigarettes choke him, and so does the smell of frying food. He never takes alcohol. His weight is always constant at about 145 pounds, with no loss.

*Examination.* He looks older than fifty-three. He is fairly well developed and nourished. His pupils are normal. His upper teeth are false and many teeth are missing in the lower jaw. His throat is not red. His chest is slightly barrel shaped, hyperresonant throughout, with prolonged expiration of high-pitched quality. The heart apex is palpable in the fifth space, nipple line; no apparent enlargement. There is no supracardiac dullness. The sounds are rapid, distant, and of poor quality, but regular. Blood pressure 115/75. The abdomen is rather prominent, but otherwise negative. Extremities are negative. There are patches of psoriasis on his elbows, wrists and about his groins. There is a right inguinal hernia. Urine; specific gravity 1.002, neutral reaction, no albumin or sugar.

*X-ray*, November 3 1923. The glands at both lung roots are somewhat increased in size. There is no abnormality in size or shape of the heart shadow.



Both lung fields are unusually large and bright. The diaphragm is low, with limited respiratory motion on both sides. The hilus shadows are increased in size and density. The right apex is retracted. The heart shadow is not remarkable; rather small. The aortic knob is a little prominent. The findings are those of emphysema.

He was put on hydriodic acid, and when seen the next time, a month later, in November 1923, was somewhat more comfortable.

Examination at this second visit showed definite moist râles at the left base, with a few squeaks at the right base and throughout the chest. The heart was the same as before, not apparently enlarged, the sounds being rapid

and of fair quality. There was no supracardiac dullness.

At that time he was digitalized by a dose of 22½ grains of digitalis leaves in three days, followed by 1½ grains per day.

In January 1924 he was seen by Dr. Harold Tobey, who made a diagnosis of chronic infection of the nasal mucous membrane and chronic infection of the left antrum and advised a radical antrum operation.

January 19 1924 X-ray showed slight thickening of the mucous membrane of both frontal sinuses, the ethmoids and the right antrum. The left antrum was very much smaller than the right. It appeared to be definitely pathological, suggestive of pus.

Dr. Tobey operated on February 19 1924 and cleaned out a small antrum and also diseased mucous membrane in the ethmoid cells.

In April 1924 the patient was still taking digitalis, and in addition potassium iodide at intervals. He looked better, his cough had greatly diminished, but shortness of breath still bothered him in the early morning and after exercise. His vital capacity was 4.2 liters, which for his size and weight is almost exactly normal. His lungs showed marked emphysematous breathing. The heart sounds were regular but very distant. The blood pressure had gone up to 126/78.

In October 1924 he reported a good summer. In fact he is always much better in hot and muggy weather. He came in because of a recent cold, presenting a specimen of sputum which was quite thick and yellow. Culture of this specimen revealed almost a pure growth of a green-producing streptococcus.

Through the autumn of 1924 he received seven doses of the corresponding vaccine, which seemed to help him at first but did not prevent another cold late in November. With this cold another culture showed again a striking predominance of the same kind of organisms, and vaccines of this new culture were continued through December 1924 and into January 1925. At this time his weight was down to 140; his vital capacity was again 4.2, and his blood pressure had fallen to 112/66. Examination of heart and lungs revealed findings similar to the previous ones. He had had a cold just before this visit, but not severe enough to keep him from work.

During February 1925 he was very well. Another cold in the middle of March kept him in bed over Sunday. He was well soon afterward, but within a week had a relapse and was again at home in bed over Sunday with a temperature of 100° and general malaise.

In May and June 1925 the notes read, "Patient fine", "Doing well", etc. During this time doses of vaccine were given at intervals of seven to fourteen days.

All was well until October 1925, when as before he caught cold and was in bed for a week with some fever and thick sputum. It is of great interest that the culture of his sputum in October was once again a pure culture of green-producing streptococcus. Since October 1925 he has had one or two doses of vaccine each month. His general condition is much better than it was three years previously. He had one bad cold in December 1925, but otherwise has been very comfortable and has attended to his work with great regularity. During the blizzard of February 1926 he got home under trying conditions but in very much better shape than would formerly have been the case.

In February 1926 skin tests with different preparations made from the culture of his own organism showed indefinite skin reactions which however were not more marked than were the reactions to similar preparations of another and different organism.

April 3 1926 X-ray showed both lung fields unusually large and bright. The diaphragm was low, with limited respiratory motion on both sides. The hilus shadows were increased in size and density. The right apex was retracted. The heart shadow was not remarkable; rather small. The aortic knob was a little prominent. The findings were those of emphysema.

## Discussion

### by Francis M. Rackemann, M.D.

### Notes on the History

This is a very common picture of a man a little past middle age with repeated winter colds which have gone on for some time and gradually gone from bad to worse until with a particularly bad cold he begins at the age of 49 to have asthma for the first time. For people of this sort the autumn is a bad time, when respiratory infections are going around. The thing that goes through one's mind first is whether it is heart disease or something else, and the something else is what I call chronic bronchitis.

### Notes on the Physical Examination

He has the definite signs of more or less emphysema.

The blood pressure is low, but the size and action of his heart appear normal.

Dr. Reeves, would you say that the peribronchial markings in this chest X-ray are more than normal?

Dr. Robert J. Reeves: It is more than we usually see in the normal individual. We see some in all normal people. This first plate is taken at full inspiration. The second is taken at full expiration. If we saw just that plate alone we might think there was fluid at both bases, but taken at inspiration there is quite a difference.

Dr. Rackemann: His vital capacity was sur-

prisingly large considering the circumstances. It was 4.2 liters, whereas the normal for his size is four and four-tenths.

He was digitalized as an experiment to see what the heart factor might be. The digitalis was carried on from November through the month of December, and potassium iodide was given at the same time.

DR. CABOT: Why was he still taking digitalis?

DR. RACKEMANN: Because he was doing well.

DR. CABOT: He is not a cardiac case, is he?

DR. RACKEMANN: I have not thought so since the test of digitalization. But that seemed to help him at the time and so it was continued.

A vital capacity of four and two-tenths for his size and weight is almost exactly normal.

The culture of his sputum is really quite striking; it is quite unique in this kind of case to find a marked predominance of the same organism persisting for fourteen months. The skin test with the vaccine and extract made in February 1926 was an attempt to demonstrate that he was hypersensitive to that organism or to some of the products of its growth.

We see in the asthma clinic a considerable number of these individuals, both men and women, who have repeated infections through the winter and whose X-rays give a picture like this; who have dyspnea on exertion which is pretty constant, and who raise all the time larger or smaller amounts of sputum which varies in character. "Chronic bronchitis" is a sort of battle-ground, largely because there is little to show at necropsy. But most of the cases do have peribronchial thickening or at least shadows around the hilus of the lung in the X-ray. It seems to me perfectly reasonable to suppose that some change in the lung must account for the symptoms.

DR. CABOT: I think it would have been a little more clean-cut if you had not found it advisable to use digitalis. We cannot imagine how digitalis can help in such a case except through the heart. And if it helped this patient I should say the presumption is that his heart was not up to its full work. The usual presumption is that an old man with a winter cough has it because his heart is weak.

DR. RACKEMANN: He has a low blood pressure, but his vital capacity is up to normal. Examination shows that the heart is not large. The apex is palpable where it should be, and the X-ray shows it about the right size except for the prominence of the aortic knob. It is very difficult for me to demonstrate active trouble with the heart itself.

DR. CABOT: The only other thing that is suggested to me to say is apropos of this diagnosis of emphysema. We have been keeping tabs on emphysema for about five years now, and I am convinced that no one can make a clinical diagnosis of emphysema. All the physical signs we have here are compatible with normal lungs. Most of the cases in which we find emphysema post mortem are those where it has not been suspected during life. I think all the signs which are put down in the textbooks—hyperresonance, extension of lung borders, diminished voice and fremitus with prolonged feeble expiration—are in fact signs of barrel chest.

DR. RACKEMANN: In other words, emphysema would be a purely functional thing.

DR. CABOT: It is perhaps a disease of the bones of the chest if it is a disease at all. It is not a disease of the lung.

DR. RACKEMANN: But the term is used, is it not, to imply a faulty function of the bellows, by which I mean that the lungs are constantly distended by air, that there is a large increase in the residual air, and that ordinarily the vital capacity is diminished because of this retention of air.

DR. CABOT: If you look it up in any textbook of pathology you will find that emphysema is a disease of the lung in which the alveoli are ruptured. That state of things does not go with any known physical signs.

A PHYSICIAN: Doesn't that change in the alveoli occur?

DR. CABOT: It does occur, but not with this big chest. We find it post mortem, but not when we expect it. This came as quite a surprise to me, just through these exercises. Now we have altogether something like 142 necropsies in cases diagnosed as emphysema in life in which we can state that it was not emphysema at necropsy. No one today, so far as I know, can make a diagnosis from the physical signs supposedly pointing to emphysema. What you say is compatible with what I say. The chest is physiologically insufficient; the lung however is not changed.

DR. RACKEMANN: As a matter of fact if you look at this man, his chest is of normal size. It does not give the impression of being a typical barrel chest.

DR. CABOT: The ribs are too far apart in the X-ray.

DR. RACKEMANN: But isn't that a functional change? Isn't that due to the increased volume of the lungs? I have great difficulty in conceiving what it is that causes the constant dyspnea that persons of this kind have. The cyanosis is rather important. They get cyanotic commonly during the height of their exacerbation, that is, during their acute colds, perhaps due to the exudate, which interferes with oxygen absorption. But in between the colds they have dyspnea on exertion just the same though to a less extent, even though the cyanosis has gone. I have two women patients who come in with fair regularity and I can tell how they are and how they have been by looking at their lips. In one woman particularly the lips are sometimes the normal red color and one can

tell at once that she is better. Another time she looks tired out and her lips are purple.

A PHYSICIAN: How successful are vaccines in these cases?

DR. RACKEMANN: It is very hard to say. This man has had vaccines for a year and a half, given at fairly frequent intervals. He has had different vaccines made each time from the predominant organism in his own sputum. He thinks they help him. And I too think they help him, because enough of these patients are a good deal better on courses of vaccine treatment to enable me to make that statement. I think it makes a difference as to what vaccine we use, since the benefit is roughly parallel with the amount of local reaction which the individual doses make in the arm. And if that is true, it shows that it is the vaccine rather than some psychic effect. I may say that I think the effect of vaccine is non-specific, and this patient illustrates the point. In spite of the fact that this man has had repeatedly pure cultures of a green-producing streptococcus in his sputum, vaccines made from this predominant germ have not done much more for him than stock vaccines in other cases.

DIAGNOSIS

Emphysema.
Chronic bronchitis (or chronic green-producing streptococcus infection of the bronchi).
Arteriosclerosis.
Asthma.

## CASE 12203

## ARE THESE SYMPTOMS NEURASTHENIC OR REAL?

SURGICAL DEPARTMENT

A married American woman forty-six years old entered December 27 for study of the cause of anemia.

Her mother, a grandmother, an uncle, and four aunts died of tuberculosis. The patient was a weak, unhealthy child. In addition to the usual diseases of childhood she had scarlet fever. She worked hard in childhood. At sixteen and again at forty she had erysipelas of the face, besides several other slight attacks. She had bronchitis many times and influenza at forty. She had had five miscarriages by her first marriage, none by her second. At thirty-three one ovary and half the other were removed because of pain in the side, more marked on the right. She had bronchitis many times and influenza at forty. Twelve years ago she had smarting of the eyes, somewhat relieved by glasses. Her bowels had been constantly constipated for twelve years. She was subject to sore throats and a "choked up" feeling with colds. Several years before admission she began to have spots before the eyes. For several years she had had dyspnea on exertion. She slept on one pillow. She had cough in the morning and during the night. She had continual desire to urinate and did so about once an hour during the day and four or five times at night. She had pain over the bladder. For two months she had had burning and pain on micturition. She had always had considerable pain at catamenia. Her periods ceased two years before admission.

During the past eight years she had had five attacks of severe cramp-like epigastric pain

Shows a dense semilunar-shaped shadow about one centimeter in diameter lying near the lower margin of the liver. Its relation to the liver however changed with change of position of the tube. It was more sharply defined in the plates taken from the front than in those from the back. It was seen in plates taken four days later. It was thought probably due to calcification in the costal cartilages.

radiating to the back but not to the right shoulder, accompanied by vomiting, and requiring morphia. Seven years before admission, about a month before delivery, she had severe headaches and fainting periods. Ten days after a normal delivery she went into convulsions. At that time she felt tired and run down and had headaches and backache much of the time. For six years her skin had been very yellow, but never frankly jaundiced. For six years her memory had been poor, more so in regard to recent events. For two years she had had chilly sensations. For a year she had had non-radiating pain in the chest about the heart, tending to cut off her breath.

At a visit to the Out-Patient Department December 1 her skin was slightly yellow. In-

creased signs were found at the apex of the right lung, with râles, marked cystocele and rectocele, a small mass in the region of the sacrum, and external hemorrhoids. The hemoglobin was 65 per cent., the leucocytes 8,400, the reds 4,840,000. December 11 the non-protein nitrogen was 33 mgm., the blood sugar 97 mgm. X-ray showed the lung fields normally brilliant throughout. The heart shadow was increased in width. The aortic knob was a little prominent. There was a dense semilunar-shaped shadow about one centimeter in diameter lying near the lower margin of the liver. Its relation to the liver however changed with change of position of the tube. It was more sharply defined in the plates taken from the front than in those from the back. It was thought probably to represent a calcified mass, possibly in the gall-bladder or possibly in the costal cartilages. Plates taken four days later confirmed the previous findings. The shadow was thought probably due to calcification in the costal cartilages. A Wassermann was negative.

Examination showed her well nourished. The heart and lungs were not remarkable. Only six teeth remained. There was slight pyorrhea. The spine showed moderate scoliosis in the lumbodorsal region. There was a grayish elevated growth 3-4 by 2-3 mm. obscuring the right pupil. There was definite contraction of the iris in the presence of light. The left pupil reacted readily to light and distance. The other reflexes were normal.

The chart is not remarkable except for a rise in temperature to 99.9° January 5. The blood pressure was 130/65 to 120/60. The urine was alkaline at one of four examinations, the specific gravity 1.004 to 1.012, ten to fifteen red cells at four examinations, a few leucocytes at all, including a catheter specimen, culture from which showed a moderate growth of colon-like bacilli. The renal function was 50 per cent. The hemoglobin was 55 to 60 per cent. The white count and polynuclears were normal, the reds 4,100,000 to 4,750,000, somewhat achromic, slight variation in size and shape, no stippling. A Wassermann was negative. The non-protein nitrogen was 33 mgm. The stools were gray at one of four examinations, clay colored at another. Lumbar puncture showed no block and gave a negative fluid. X-ray showed no definite evidence of tuberculosis or of disease of the stomach or duodenum. A consulting oculist reported, "This appears to be of a bulbous nature and can be treated surgically after her general condition has been improved." A genito-urinary consultant could find nothing to explain the frequency. An orthopedic consultant found no evidence of sacroiliac strain.

December 31 the patient had an attack of severe epigastric pain radiating to the back via the left. Next day she felt perfectly comfortable.

Because of the respiratory history she was discharged January 10, to return in the spring for operation.

After leaving the hospital the patient had no more acute attacks, no jaundice, and gained somewhat in strength. Her stools were normal in color. She continued to have frequency, and pain and itching on urination. During the winter she had another attack of neuritis in the left shoulder and arm, and an attack of bronchitis and hoarseness, each attack lasting about a week.

May 8, four months after discharge, she reentered.

Examination showed a palpable mass of glands in the left axillary region, a physiological right apex, and the liver palpable two centimeters below the costal margin, with slight tenderness on pressure.

Before operation the chart was not remarkable. The urine showed occasional red blood corpuscles at one of three examinations and leucocytes at all, including one catheter specimen. The hemoglobin was 75 per cent., the leucocytes 6,900, the polynuclears 74 per cent., the reds 4,840,000, with anisocytosis, poikilocytosis, marked achromia and occasional polychromatophilia. The platelets were very small and increased in number. A Wassermann was negative. The coagulation time was 21 minutes in three tubes, nine minutes in a fourth; each showed air bubbles. Clot retraction was moderate in three hours, marked in eighteen hours. Serum dilution was 1:30. X-ray showed the shadows previously described still present, probably due to calcification in the costal cartilages. The outline of the gall-bladder was not visible in any plates taken.

Because of a mild coryza operation was postponed until May 15. The evening after operation she was fairly comfortable. Next day the temperature suddenly rose to 104.5°, the pulse to 145, the respiration to 52. There was an area of bronchial breathing at the right base. The extremities were cyanotic. The white count was 60,000. The blood pressure fell, reaching 55/45 in the evening. 600 c.c. of whole blood was transfused with temporary improvement. Early in the morning of May 17 she died.

## Discussion

BY EDWARD L. YOUNG, JR., M.D.

Without any scientific basis for it, it is one of those beliefs that is almost a superstition that a streptococcus—of course the cause of erysipelas—can hang around the body and make trouble in surgical operations a long time after it was last known to be there. Have you noticed it?

Dr. F. T. Hunter: Yes.

Dr. Young: I lost one friend who was oper-

ated three years after erysipelas. I have known of two others, one two years and one more than two years after streptococcus infection, all with streptococcus sepsis post-operative. It was as though the streptococcus had a liking for their tissues.

DR. CABOT: Can't you say that to have had erysipelas proves us extra susceptible to streptococcus and therefore susceptible again to that type of infection? We do not need to suppose that the germ stays around in the body.

DR. YOUNG: Yes.

I wish they had told us whether or not removal of the ovaries did any good or not.

Urination once an hour during the day can be discounted. Four or five times during the night I think generally cannot. Nine times out of ten frequency during the night means some organic lesion in the background although it might be a slight one. During the day it might be nervousness, habit, or some functional thing with nothing behind it.

I have often commented on how easily, in feeling of the abdomen where we think we ought to feel a mass, we can feel it. I wonder if this statement of increased signs at the right apex may be the same type of findings due to desire, because of her family history.

Five miscarriages and the aortic knob prominent suggest the possibility of specific infection, but the Wassermann was negative.

The pain, of which she has had five attacks, is a very definite symptom.

All of the symptoms spoken of except the evidence of some toxemia about the time of delivery and the pain requiring morphia,—that is, her tired feeling, headaches, backache, yellow skin, poor memory, chilly sensations,—I think could be discounted in a highly nervous, neurotic type of woman. The attacks of pain seem to be altogether too definite to throw out, and I think two things have to be considered: (1) gall-bladder disease, (2) the possibility of an atypical angina, because it is very difficult at times to differentiate. It seems to me that had these attacks of pain been due to ulcer, inasmuch as it would have had to be due to either a subacute perforation or some real activity of the ulcer, we should have had more evidence of ulcer symptoms.

In the examination there is no mention of that growth over the sacrum. I was wondering if by any chance we might have had a spina bifida which was the cause of her bladder symptoms.

There were no red cells in the catheter specimen.

Clay-colored stools is another important bit of evidence pointing toward the biliary tract.

It would seem to me that with a moderate growth of colon-like bacilli and some in the urine, a low-grade colon infection would account for it. I do not think we can lay much stress on the seriousness of this frequency.

With all these examinations we should certainly hear more about that tumor of the sacrum had it been of any moment.

I should like to ask if she had a Graham test, cholecystography?

MISS PAINTER: There is no indication that she had.

DR. YOUNG: The evidence it seems to me points pretty definitely toward gall-bladder disease. I should like to hear what Dr. Cabot has to say about the differentiation between that and angina. I have known two cases in the last two months where men whom I consider very good have been in great difficulty making the diagnosis.

DR. CABOT: It seems to me the diagnosis of angina pectoris cannot be made without a great deal more definite indication of the pain's relation to exertion or emotion. We are not told that this pain has any particular connection with those. We are not told of any characteristic radiation. We are not told of anything characteristic as to its relief. I should say that if we do not know what produces or what relieves a pain supposed to be due to angina, nor anything of its radiation, we cannot make the diagnosis.

DR. YOUNG: Do you think it is possible to have pain from angina without exertion or emotion, that is, a definite cause?

DR. CABOT: I do not think we can say it is angina. It might be something else.

DR. YOUNG: She ought not to be having blood in the urine even though these are not catheter specimens.

Serum dilution one to thirty shows very little bile pigment in the blood.

I have not heard anything about shadows before. Was that important?

MISS PAINTER: It was not mentioned in the X-ray report of the first examination.

DR. YOUNG: I think we can assume that it is not. Would you like to comment on that, Dr. Camp?

DR. JOHN D. CAMP: These were taken in May in the Out-Patient Department. The second examination was made in the house. This shows a definite calcification in the costal cartilages. There is one shadow however which seems to shift in relation to the others, and of course that would mean that it is not associated with the costal cartilages, and is probably something else. In this position the most likely thing would be a gallstone, although it does not have the usual configuration of a gallstone.

DR. YOUNG: There is tuberculosis in the family certainly. Might this be calcified glands?

DR. CAMP: It might be calcified glands, but because it shifts in position I do not believe it is rib cartilage.

DR. YOUNG: How important is it that you do not see the outline of the gall-bladder?

DR. CAMP: I do not think that means anything when the examination is made without the Graham test. We have learned that a gall-bladder is not necessarily diseased because it casts a shadow. The Graham test establishes that. A lot of shadows that we used to describe as the gall-bladder were not the gall-bladder. If we run them without dye we may say it is a beautiful demonstration of the gall-bladder. However, when we give the patient dye and the gall-bladder shows it is often in an entirely different position. We certainly know that a normal gall-bladder can cast a shadow.

DR. YOUNG: She had some barium series done. There is no mention made of there being any pulling over to the right as though adherent to a diseased gall-bladder, or of any distortion as from pressure. That would have been mentioned, wouldn't it?

DR. CAMP: Yes.

DR. YOUNG: I think it is important indirect evidence in gall-bladder disease.

DR. CAMP: When it is present it is important.

DR. YOUNG: I believe, assuming the facts to be so,—that we have a severe epigastric pain going through to the back with vomiting, clay-colored stools, a number of attacks of jaundice noted in the Out-Patient Department—that she has gall-bladder disease. I think it is the thing they went for and I think it is the diagnosis.

DR. CABOT: Cholecystitis or gall-stones or what?

DR. YOUNG: I think she has a cholecystitis. I think at this length of time—eight years—she ought to have stones.

DR. CAMP: The last X-ray was not by any chance a Graham test? We do not usually mention the outline of the gall-bladder unless it is.

MISS PAINTER: The request is for a Graham test.

DR. YOUNG: Then the fact that they did not see the outline of the gall-bladder is important, isn't it? Because the normal gall-bladder ought to fill and empty and be seen readily in the plates. So that if this last is a Graham test I believe it is of very great importance as almost clinching the diagnosis of abnormal gall-bladder. Under what conditions other than disease do you fail to get that filling?

DR. CAMP: One condition in which the gall-bladder is frequently not shown is diabetes. What the relation is I do not know. Eight out of twelve cases we have run so far have shown a positive Graham test. Whether or not every patient with diabetes has cholecystitis I would not like to say. We have had two cases of chronic interstitial pancreatitis, presumably both with normal gall-bladders. We had one case of malignancy of the pancreas, with an apparently normal gall-bladder which did not fill. Of course any obstruction above the cystic duct would produce failure to fill.

DR. YOUNG: And cystic duct stone would too?

DR. CAMP: Yes. Or obstruction in the hepatic duct, and any liver pathology which is gross enough to interfere with its function.

### X-RAY INTERPRETATIONS

Pathological gall-bladder?

### DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Cholecystitis.
Cholelithiasis.

### PRE-OPERATIVE DIAGNOSIS

Cholecystitis.

### OPERATION

Gas-ether. Right upper rectus incision. The stomach and duodenum were negative. A small gall-bladder was found with thickened walls which contained clear fluid but no bile. There were a few small stones, one of which was impacted in the cystic duct. The common duct was negative to palpation. The gall-bladder was removed. A cigarette wick was placed in the stump of the cystic duct.

### PATHOLOGICAL REPORT

A gall-bladder 6 cm. long with a smooth mucous surface. There was a small calcareous plate at the fundus. There were no stones.

Microscopic examination shows the mucous membrane eroded. The walls are composed of a cell-poor fibrous tissue.

Chronic cholecystitis.

### FURTHER DISCUSSION

DR. YOUNG: In other words there was a completely closed-off cystic duct from either stricture or stone.

This is an extremely rapid, virulent pulmonary infection apparently, whether or not based on an embolus I think we cannot tell. Whether Dr. Richardson can tell us or not I do not know.

DR. CABOT: From an account here you would call that a non-functional gall-bladder, wouldn't you? Then wouldn't you expect to find the bile-ducts dilated?

DR. YOUNG: No, sir, I do not think so, because there is no evidence that there has been any long continued obstruction in the common duct. There is no proof that the common duct always dilates after the removal of the gall-bladder, either surgically or as in this case by an impacted stone.

DR. CABOT: I have been reading a paper on this by Dr. John Homans*. As I understand him, when the gall-bladder is out of function

*Results of Cholecystectomy with Particular Reference to Dilatation of the Common Duct: John M. Homans. Boston Med. and Surg. Jour., Sept. 2, 1920.

the bile ducts should dilate unless the duodenal sphincter fails.

DR. YOUNG: That is so according to his work and other work that has been done. Yet clinically it is not always so. We have watched that point here. A good many cases come in here for secondary operations, and although it is very hard to say clinically when one is working at the bottom of a hole that a given duct is not dilated, we get that impression. They say here, "The common duct was negative to palpation." In other words they would have said if it was dilated.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Chronic cholecystitis.
Cholelithiasis.
Cholecystectomy.

DR. EDWARD L. YOUNG'S DIAGNOSIS

Cholecystitis.
Cholelithiasis.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*

(Chronic cholecystitis. Cholelithiasis.)

2. *Secondary or terminal lesions*

Lobar pneumonia, right lung.
Edema of the lungs.
Purulent pleuritis, right.
Minute concretion in common bile duct.
Miliary tuberculosis of the liver.
Soft hyperplastic spleen.

3. *Historical landmarks*

Cholecystectomy.
Slight chronic pleuritis.
Old appendectomy.

DR. RICHARDSON: Sometimes I am glad that I am a little careful. In this particular case I might not have looked at the bile ducts, but I did, and noted that the common duct was rather small.

The skin was sallow. I could make out no definite icterus.

The peritoneal cavity was negative, the appendix wanting. The gastro-intestinal tract and the glands in the abdominal cavity were frankly negative. The liver was at the costal border. The diaphragm on the right was at the third rib, on the left at the fourth rib.

In the right pleural cavity there was a small amount of purulent fluid. The left was negative. There were a few old pleural adhesions on each side. The bronchi contained much purplish red mucopurulent fluid such as we find in pneumonias, which was present in this case on the right side. The apex of the right lung and the upper lobe were negative. In the lower lobe and in the middle lobe, upper third, there was gray-red pneumonia, with the usual exudate on the pleura over these consolidations. Cover glasses from the lung tissue showed leucocytes and pneumococci. So that we have here pneumococcus pneumonia, gray-red in stage.

DR. YOUNG: Not an infarct?

DR. RICHARDSON: No. The left lung showed no definite pneumonia, and on the pleura on this side there was no exudate.

The circulatory apparatus generally was negative.

The liver, which was rather small, was a little granular in places. I cut a piece out, and curiously enough there were a few scattered tubercles in these places. There was no evidence of tuberculosis anywhere else. Bringing up again how every once in a while we find a few isolated tubercles. Even in the lungs sometimes we find them low down, with no definite tuberculosis anywhere else. The apex of the lung is not the only place where we find chronic tuberculosis.

Bile duct: the cystic duct was tied off, and negative. The common duct was smaller than usual and contained a minute blackish concretion. Its mucosa was negative. The hepatic duct was negative.

The pancreas and the duct of Wirsung were frankly negative. The tissue of the spleen was purplish mush. The left tube and ovary were wanting, the right tube and ovary negative.

DR. YOUNG: Was the urinary tract negative?

DR. RICHARDSON: Negative.

## A HARMLESS FUNCTION OF QUACKS

PRESENT day diversions include mental exercises of all sorts. Recent contributors to current literature have been trying to create the shortest possible sentence which will include all letters of the alphabet. One person employs "quacks" in his claim for recognition in the following sentence, "Frowzy quacks jump, vex and blight." This may convey a moral as well as an illustration of brevity.

## AID TO CANCER FUND

THE *New York Times* reports that John D. Rockefeller, Jr., has made an unconditional gift of $125,000 to the American Society for the Control of Cancer. The Society is engaged in a campaign to raise an endowment of $1,000,000. Mr. Rockefeller also made a gift of $10,000 to defray the expenses of a congress of leading cancer specialists of this country and Europe at Lake Mohonk in September, 1926.

Mr. Aldrich who is in charge of the campaign contends that half of the 100,000 deaths from cancer in this country are probably preventable.

THE BOSTON
# Medical and Surgical Journal

*Established in 1828*

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

For three years: William H. Robey, Jr., M.D.; Roger I. Lee, M.D.; Robert B. Osgood, M.D.
For two years: John W. Bartol, M.D.; Horace D. Arnold, M.D.; Channing Frothingham, M.D.
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*The Journal does not hold itself responsible for statements made by any contributor.*

*Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.*

## THE STATE SENATE DISAPPOINTS THE MEDICAL PROFESSION

Dr. Francis P. Emerson petitioned the legislature of this Commonwealth to enact House Bill 1453. This bill was designed to prevent serious suffering and loss of life. It was clearly drawn and designed to obviate definite dangers which have been repeatedly demonstrated. It provided that any dangerous corrosive or caustic substance offered for sale should bear upon the package containing such substance a label containing the name of the article, the name and place of business of the manufacturer, the wholesaler or distributor and the word "poison" running parallel with the main body of the reading matter on such label, with specific directions for the kind and size of type to be used in the printing. The bill further defined that the term "Dangerous corrosive or caustic substance" shall be construed to mean hydrochloric acid or any preparation thereof containing ten per cent. or more of free hydrochloric acid, sulphuric acid with the same degree of concentration, nitric acid in a concentration of five per cent. or more, solutions of carbolic acid in a concentration of five per cent. or more, oxalic acid or any preparation thereof containing the free acid or a salt thereof in a concentration of ten per cent. or more, acetic acid or any preparation thereof containing free acid in a concentration of twenty per cent. or more, sodium or potassium hydroxide in concentrations of ten per cent. or more, and ammonia or any other preparation thereof yielding free ammonia in a concentration of five per cent. or more.

It is well known that children and in some cases adults have accidentally swallowed or come in contact with some of these chemicals. The destruction of tissues incident to the action of these chemicals on human tissues has led to terrible suffering, disability and death in certain cases.

The Joint Committee on Legislation of our medical societies approved the bill and so informed the committee of the legislature. The petitioner, Dr. Emerson, was not notified of the hearing, an omission which must have been due to carelessness. We do not suppose that there was any intentional discourtesy, but if the machinery of the legislature cannot provide for prompt notice to a prominent and highly reputable physician seeking through a bill to prevent suffering and death, there must be inefficiency in our state service.

Dr. Emerson was prepared to show that several states have enacted laws covering the provisions in this bill and also that some manufacturers, at least, are in favor of its enactment.

The House approved the bill but the Senate turned it down and it may be that some person or persons will be made to suffer by this indifference of the Senate. We cannot always understand the workings of the minds of members of the legislature on many subjects under consideration and in this particular case we wish to go on record that such behavior of a representative body is beyond the comprehension of physicians who, having no selfish motives, are asking for the co-operation of our law makers in efforts to protect the public.

Dr. Emerson is disappointed, of course, but will present the matter to the legislature at the next session. We hope for favorable action next year.

## BASIC ANATOMY

Many of the readers of the *Boston Evening Transcript* must have been interested to note, in the issue of April 3, the report of a very fundamental study in anatomy that has been conducted during the last five years by Dr. Frederick T. Lewis of the Harvard Medical School and demonstrated before the American Association of Anatomists at Yale. This investigation has had to do with the shape and formation of cells, and is heralded as perhaps the most important discovery made in anatomy at the Harvard Medical School during the hundred and forty-four years of its existence.

The problem is old, for Robert Hooke in 1665 noticed that cells in the shaft of a feather are a "kind of solid or hardened froth or a congeries of very small bubbles," and Nehemiah Grew soon afterwards reported that pith is "much the same thing as to its conformation, which the froth of beer or eggs is." No one at that time, however, knew what form a spherical bubble would take when in the midst of other bubbles of the same sort and size; the French botanist Brisseau Mirbel in 1802 and the German physician Kieser in 1818 concluded that cells as a whole are twelve-sided bodies, Kieser believing that these dodecahedra would have a smaller surface for their volume than any other geometrical bodies that could be stacked without interstices. Later the Belgian physicist Plateau found the soap bubble in the midst of a group to be fourteen-sided, and Lord Kelvin demonstrated the fourteen-sided body or tetrakaidecahedron to have a smaller surface than the dodecahedron.

Dr. Lewis studied first the cells of elder pith, using the method of serial sections from which enlarged wax models were made, and later human fat cells were studied in the same way. The number of surfaces per elder pith cell varied from six to twenty with an average number of 13.96, and the average number of surfaces of fat cells was found to be 14.01. Both agreed with the soap bubbles in being typically fourteen-sided, although they are very variable, frequently having pentagonal surfaces instead of the alternating squares and hexagons.

## MODESTY A LOST ART WITH SOME EDITORS

WHILE we admire energy and well poised and reasonably conservative egotism there is a very general idea that regard for others should lead to fair consideration of the work of persons or organizations in comparison with our own. The custom of some business concerns of claiming the best service and the highest grade products should be tempered, we feel, with reasonable reserve.

As we read current medical journals some reactions are inevitable. As a rule they are scholarly productions with distinctive features due to local conditions or the ambitions of those in control. As a composite photograph shows the average contour of a group of people, so the medical journals of a country taken together fairly well represent the profession. Occasionally one bursts forth in expressions which indicate mental exuberance rather than calm judgment. We noticed recently in the editorial column of an esteemed contemporary the claim that that particular journal "is the most comprehensive state medical journal both in point of circulation and editorial scope. Unapproached in either size or influence by any other state medical journal. . . ."

We always enjoy seeing a happy self-satisfied individual and it is pleasant to know that the editor of the journal referred to feels that he has climbed to the pinnacle of success. Since this journal is confined to one issue per month, we respectfully suggest comparison with a state journal which appears every week.

We confess to a large degree of appreciation of the virile pen of the editor and we have no desire to belittle the excellence of this periodical but we wonder why its managers are willing to present medicinal preparations, the ingredients of which are not available to the average physician, in its advertising columns. Very likely the editor knows the exact composition of Fellows' Hypophosphites, and Gray's Glycerine Tonic, and believes that these compounds will do all that is claimed for them, or otherwise he would not permit the manufacturers to suggest to physicians the value of their products. If the editor really believes in the potency of such preparations, he must live a life of acute anxiety because of the great number of diseases which are allowed to exist which these medicines would, if applied, cure. He must be terribly unhappy that the information conveyed in the advertising columns of the "most comprehensive and influential state medical journal" cannot induce the profession to make use of these valuable compounds. He is in the same sad state in which scientific physicians find themselves when they are unable to induce the people to avail themselves of the benefits of vaccination or toxin-antitoxin. Those of us of lesser influence feel badly enough because the laity will not accept all that scientific medicine offers but we cannot begin to have the mental depression of the editors of the greatest and best state medical journal.

So far as size is concerned, we cheerfully acknowledge that the advertising pages of this greatest of state journals can beat us in space. We try to be satisfied with quality. When it comes to pages of reading matter outside of advertisements we would respectfully suggest counting the pages of this most "influential" journal and comparing them with the production per month of the BOSTON MEDICAL AND SURGICAL JOURNAL. For the month of April this "comprehensive" journal published 88 pages of reading matter. The BOSTON MEDICAL AND SURGICAL JOURNAL published 237 pages in the same period.

We make no claims for quality because we prefer to leave that for our readers and we only ask fair consideration for those articles which we have the privilege of publishing. We will continue to try to furnish a reputable journal without the claim that we are better than our neighbors in the medical field.

## DR. JABEZ NORTH JACKSON, PRESIDENT ELECT OF THE AMERICAN MEDICAL ASSOCIATION

INFORMATION furnished by returning visitors to Dallas confirms the glowing tribute to the standing and personal qualities of the President-Elect of the greatest medical organization in the world.

In addition to high standing in the surgical field Dr. Jackson is recognized as a man of high ideals and personal charm. His influence on the Association at large and the boards and committees having the responsibilities of the details of administrative work will be inspiring. He will add distinction to the long list of Ex-Presidents who have contributed to the progress and standing of scientific medicine.

We congratulate Dr. Jackson for the honor conferred and the association for the wisdom shown in its selection of a president.

## DR. MORTON PRINCE TO FILL A NEW POSITION

IT is reported in the daily papers that Dr. Morton Prince will occupy a new chair in the Faculty of Harvard University. The specific title conferred upon Dr. Prince is Professor of Dynamic and Abnormal Psychology.

Dr. Prince has been prominent in neuropsychopathy for many years and especially on the faculty of the Tufts College Medical School. He has been active in court work and has written several books.

It is refreshing to find a person who at seventy-two years of age can enter upon a new project although in this instance it may be largely the demonstration of theories and convictions which have been evolved through many years of study and practice.

We extend congratulations to Dr. Prince for this recognition of his ability.

## THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

LEWIS, DEAN, A.B., M.D. Rush Medical College 1899; F.A.C.S.; Professor of Surgery, Johns Hopkins University; Surgeon-in-Chief, Johns Hopkins University Hospital; Editor, *Archives of Surgery*. His subject is "Post-Operative Treatment of Surgical Cases," page 913. His address is Department of Surgery, Johns Hopkins Hospital, Baltimore, Md.

BRYANT, JOHN, A.B.; M.D. Harvard Medical School 1907; Formerly Director, Convalescent Department, Walter Reed General Hospital; Field Consultant to the Department of Physical Reconstruction, Surgeon General's Office. Secretary, American Gastro-Enterological Association; Corresponding Consultant, Burke Foundation for Convalescents; Medical Assistant in Problems of Convalescence, Massachusetts General Hospital. His subject is "Surgical Convalescence: Medical Aspects," page 920. His address is 338 Marlboro St., Boston, Mass.

TUTTLE, GEORGE H., A.B.; M.D. Harvard Medical School 1891; Formerly Assistant Surgeon, 6th Infantry, U. S. A.; Visiting Physician, Emerson Hospital, Concord, Mass. The subject of his paper is "Changing Conception of Diabetes as a Disease," page 931. His address is South Acton, Mass.

GOULD, ADRIAN G., Ph.B.; M.D. Harvard Medical School 1917; Assistant Professor of Hygiene and Assistant Medical Adviser, Cornell University, Ithaca, N. Y. His subject is "Cumulative Immunity from Hay-Fever Preventive Inoculations," page 932. His address is Old Armory, Cornell University, Ithaca, N. Y.

## The Massachusetts Medical Society

THE One Hundred and Forty-fifth Anniversary will be held at the Hotel Kimball, corner of Bridge and Chestnut streets, Springfield, Tuesday and Wednesday, June 8 and 9, 1926.

### GENERAL INFORMATION

*A Bureau of Information* will be maintained by the Committee of Arrangements during Tuesday and Wednesday in the main lobby of the Hotel Kimball. A folder containing full information concerning accommodations, entertainments, and the exhibits will be sent to all Fellows about two weeks before the meeting and will be distributed at the bureau of information.

*All Fellows are requested to register* and procure their dinner tickets and badges as soon as they arrive. A cordial invitation is given to the wives and families of Fellows to attend. A special headquarters for ladies will be in the main lobby of the hotel, where they are asked to register. There will be golf and tea for them at a country club on Tuesday afternoon, and dancing in the Supper Room that evening. On Wednesday morning there will be a "College Town" automobile trip for ladies, visiting Mt. Holyoke, Amherst, Massachusetts Agricultural, and Smith colleges, and on Wednesday afternoon a luncheon at the Longmeadow Country Club.

### EXHIBITS

Both Scientific and Commercial Exhibits will be held on the Seventh Floor of the Hotel Kimball.

*Scientific Exhibit*

*Cancer.* By Dr. Robert B. Greenough and staff.

*Fractures.* By Dr. Charles L. Scudder and staff.

*Diabetes.* By Dr. Elliott P. Joslin and staff.
*Laboratory Products of the State Department of Health.* By Dr. Benjamin White and staff.

TUESDAY AFTERNOON, JUNE 8, 1 P. M.

*Private Dining Room, Second Floor*

Get together luncheon of the Secretaries of the District Medical Societies.

TUESDAY AFTERNOON, JUNE 8, 2 P. M.

*Ball Room*

SECTION OF SURGERY

Officers of the Section

J. M. Birnie, Springfield, *Chairman.*
H. P. Stevens, Boston, *Secretary.*

PROGRAM

*Symposium on Peptic Ulcer*

1. *The Etiology and Patholoy of Peptic Ulcers*

Dr. Charles Connor, Peter Bent Brigham Hospital, Roxbury.

A résumé of the various theories as to the cause of chronic ulcers of the stomach and duodenum is given, with a summary of the more important experimental results obtained in recent years. The pathologic anatomy of 150 ulcers from which tissue for examination was available at the Peter Bent Brigham Hospital is given, with a note on the occurrence of "silent" ulcers in autopsy specimens.

2. *X-ray.*

Dr. Ernest L. Davis, Springfield.

Peptic ulcer can be diagnosed positively by the *x*-ray when it is so situated in the stomach that a niche or an accessory pocket can be seen, also in the duodenum when the characteristic deformity of the "bulb" is shown constant and unvarying. The site of the ulcer is of more importance in its visualization than its size. Peptic ulcer may exist without showing any direct *x*-ray evidence, but there may be indirect signs that may be corroborative of the clinical diagnosis.

3. *General Management.*

Dr. Frank H. Lahey, of Boston.

Conflicting reports as to the occurrence of gastro-jejunal and jejunal ulcer, together with percentage of cures following gastro-enterostomy and conflicting reports as to operative mortality following partial gastrectomy for gastric and duodenal ulcer, indicating the present state of uncertainty of gastric surgery for ulcer of the duodenum and of the stomach. This has led us to develop means and measures in our Clinic for painstaking medical management upon these cases, and to undertake surgery only when personally known and observed medical management has been thoroughly exhausted. Surgery having been undertaken, we have accepted that gastrectomy offers a better chance of complete and permanent relief, but have undertaken it only on selected cases.

4. *Medical Aspects.*

Dr. Franklin W. White, Boston, Mass.

Accuracy of modern diagnosis. Use of *x*-ray and occult blood tests to follow results of medical treatment. Types of treatment and duration; follow up system. Importance of carrying out the regimen when the patient is symptom free and of preventing recurrence. Overlapping of medical and surgical treatment. The treatment of choice in hemorrhage and obstruction. Late results of medical treatment of duodenal ulcer in private practice show 65-70% cures (5 years+). Medical treatment of gastric ulcer, its limitations and risks. The ulcer-cancer question. Good results in selected cases. A combined medical and surgical routine is the only logical one, medical for the majority group of younger, milder, uncomplicated cases; surgical for a minority of chronic serious, resistant cases. The value of surgery is not in treating the whole, but in curing difficult cases.

5. *Surgical Aspects.*

Dr. Albert A. Berg, New York City.

Importance of follow-up system in estimating results of treatment, both medical and surgical. How long must cases of gastric and duodenal ulceration be kept under observation before the results of treatment can be determined. Similarity of gastric and duodenal ulcers in regard to method of treatment. Effects produced by medical and surgical therapeutic methods upon gastric and duodenal ulcers. The conditions upon which a permanent cure of gastric and duodenal ulcer depends. Considerations as to treatment, medical and surgical, based upon preceding conditions—subtotal gastrectomy, the immediate mortality and results after three years employment. Lantern slides illustrating above points.

6. *General Résumé.*

Dr. Charles H. Mayo, Rochester, Minnesota.

Surgical procedures for the treatment of peptic ulcer have been many since Billroth's work in 1881, the pre-antiseptic period. While it cannot be said that present operations for peptic ulcer are absolutely satisfactory, they are nevertheless improving the health of many persons suffering from this disease, and there are few recurrences and a low mortality rate. There are probably several causes responsible for the production of peptic ulcer, and the ultimate goal of our knowledge concerning these causes is still far away. In the treatment of peptic ulcer, both surgical and medical procedures are sometimes inadequate and ill-adapted, except for the relief afforded from chemical and mechanical phases of the disease. Therefore, we have much to learn with regard to the prevention, relief, or cure of lesions of the stomach and duodenum. The co-operation of surgeons and physicians is imperative in the care of these patients, both before and after operation.

TUESDAY AFTERNOON, JUNE 8, 2 P. M.

*Library, First Floor*

SECTION OF TUBERCULOSIS

Officers of the Section

Adam S. MacKnight, Attleborough, *Chairman.*
Randall Clifford, Boston, *Secretary.*

PROGRAM

1. ***The Treatment of Pulmonary Tuberculosis by Immobilization and Collapse.***

   Dr. James Alexander Miller, New York City.

   The most important fundamental principle in the treatment of tuberculosis is rest. This applies to a joint and to the lungs. The use of local rest in the treatment of pulmonary tuberculosis by artificial pneumothorax and by more radical, surgical operation is a comparatively recent development. The collapse and immobilization of the lung by the introduction of air into the pleural cavity, or the collapse of the chest wall by the removal of portions of all of the fixed ribs in suitable cases has produced very remarkable results, and these procedures are now beyond the experimental stage. The surgical procedure seems radical, but in properly selected cases the patients stand it well and the results are excellent. These two methods of treatment constitute the greatest advance in the treatment of pulmonary tuberculosis in the last fifteen years.

   Discussion by Dr. Edward O. Otis, Dr. Vincent Y. Bowditch, and Dr. John B. Hawes, Boston.

2. ***Thoracoplasty in Pulmonary Tuberculosis.***

   Dr. Wyman Whittemore, Boston.

   The kinds of cases that are suitable for this operation, indications and contraindications. The operation itself, going a little bit into the history of the operation as well as to how it should be done. Convalescence, and results.

   Discussion by Dr. Frederick T. Lord, Boston, and Dr. Harry L. Barnes, Wallum Lake, Rhode Island.

TUESDAY AFTERNOON, JUNE 8, 2 P. M.

*Private Dining Room, Second Floor*

SECTION OF OBSTETRICS AND GYNECOLOGY

Officers of the Section

C. E. Mongan, Somerville, *Chairman.*
F. C. Irving, Boston, *Secretary.*

PROGRAM

1. ***Diet in Pregnancy. An Attempt To Control the Weight of the Baby.***

   Dr. L. V. Friedman, Boston, Professor of Obstetrics, Tufts College Medical School.

   Two consecutive series of cases are reported: (a) Cases in which patients were not weighed or dieted throughout pregnancy. (b) Cases in which patients were weighed and dieted throughout pregnancy. Results in latter series showed smaller babies, shorter first stages, and consequently necessity for fewer operative deliveries.

2. ***Report of Committee on Toxemias of Pregnancy.***

   Dr. Foster S. Kellogg, Boston, *Chairman.*

3. ***Postpartum Care, Its Importance as a Factor in Morbidity from Childbearing.***

   Dr. Geo. W. Kosmak, New York City, Editor of the *American Journal of Obstetrics and Gynecology.*

   The interest, both lay and medical, usually accorded to the prenatal and intranatal should be extended to the postpartum period. The various physiologic processes culminating in labor must be readjusted to the usual normal life of the woman. Interference with this process, or carrying over of disturbances from pregnancy, is just as apt to lead to deplorable consequences as interruptions or abnormalities of similar processes during labor. Postpartum involution

involves not only retrogressive changes in the genitalia, but also in other organs, including the kidneys, breasts, and glands of internal secretion. Description of routine care of postpartum patients, as well as accepted treatment of subinvolution and displacements of uterus, sepsis, nursing, diet, and early care of newborn.

Discussion to be opened by Dr. Richard S. Benner, Springfield.

TUESDAY AFTERNOON, 5 P. M.

*Ball Room*

ANNUAL MEETING OF THE SUPERVISING CENSORS

TUESDAY AFTERNOON, 5:30 P. M.

*Ball Room*

ANNUAL MEETING OF THE COUNCIL

TUESDAY EVENING, 7 P. M.

*Supper Room*

COTTING LUNCH

TUESDAY EVENING, 8:15 P. M.

*Ball Room*

THE SHATTUCK LECTURE

*The Inter-relations of the Physicians and the Hospital.*

Dr. William Darrach, Dean of the College of Physicians and Surgeons, Columbia University, New York City.

Following the Shattuck Lecture, Dr. George Burgess Magrath, Medical Examiner of Suffolk County will give a talk in the Supper Room, entitled

*Some Professional Experiences*

illustrated with lantern slides.

This will be followed by dancing and refreshments in the Supper Room.

WEDNESDAY MORNING, JUNE 9, 9 A. M.

*Ball Room*

SECTION OF MEDICINE

Officers of the Section

W. H. Robey, Boston, *Chairman.*
Maurice Fremont-Smith, Boston, *Secretary.*

PROGRAM

1. *The Physiological Background for the Symptoms of Thyroid Failure, with a Consideration of the Results of Treatment.*

Dr. Charles H. Lawrence, Boston.

Many patients with thyroid failure present groups of symptoms not usually associated with typical myxedema. The basis of these symptoms is to be found in the disturbances of circulation, blood chemistry and morphology, nitrogen metabolism and elimination, which occur as a result of hypofunction of the thyroid gland. Treatment relieves the symptoms by normalising the bodily economy.

Discussion by Dr. Donald Macomber, Boston, and Dr. W. Richard Ohler, Boston.

2. *Clinical Significance of the Thyroid Heart.*

Dr. Burton E. Hamilton, Brookline.

Hyperthyroidism not destructive to heart but burdensome. Tends to drive hearts that can withstand ordinary stress into (1) Auricular fibrillation, (a) transient, (b) paroxysmal, (c) established; (2) Congestive heart failure. Removal of "hyperthyroidism" tends to (1) Cure the auricular fibrillation; (2) Relieve the congestive failure. Recognition of the thyroid heart difficult. Points in recognition of obscure hyperthyroidism.

Discussion by Dr. George M. Albee, Worcester.

3. *Iodin in the Treatment of Exophthalmic Goiter.*

Dr. Henry S. Plummer, Rochester, Minnesota.

The exophthalmic goiter complex can be attributed to two factors: one of these is the excess of the normal product of the thyroid gland; the other is theoretically attributed to an abnormal thyriod product. The complex attributed to the latter factor is controlled by the administration of iodin. Report of the results of the administration of iodin since March, 1922.

Discussion by Dr. James H. Means, Boston, and Dr. Frank H. Lahey, Boston.

WEDNESDAY MORNING, JUNE 9, 9 O'CLOCK

*Private Dining Room, Second Floor*

SECTION OF PEDIATRICS

Officers of the Section

Richard M. Smith, Boston, *Chairman.*
J. Herbert Young, Newton, *Secretary.*

PROGRAM

1. *The Relation of the School Physician to the Family Doctor.*

Dr. Donald S. King, Boston.

How much of the school examination can and should be assumed by the family physician and what definite medical problems does this leave for the school physician to handle?

Discussion opened by Dr. James H. Townsend, St. Paul's School, Concord, N. H., and Dr. Charles W. Milliken, New Bedford.

2. *The Surgical Aspects of Pyuria in Childhood.*

Dr. Charles G. Mixter, Brookline.

A discussion of the causes and effects of pyuria in children. A mechanical feature can often be demonstrated as an underlying basis. Different levels at which mechanical obstruction is most apt to occur in childhood. Causes may be congenital anomalies or malformations, calculus, or interference with bladder enervation. Importance of complete urinary tract investigations should be emphasized in all cases of persistent pyuria in childhood.

Discussion opened by Dr. A. H. Crosbie, Boston, and Dr. James A. Seaman, Springfield.

3. *Diphtheria Prevention, Its Successes, Present Status, and Possibilities.*

Benjamin White, Ph.D., Jamaica Plain.

This paper deals with the efforts that have been made by various agencies to extend the use of the Schick test and toxin-antitoxin immunization throughout the Commonwealth. It also presents the results obtained in private practice, institutions, and in various cities and towns. It describes the latest recommendations for the use of these two procedures and shows the feasibility and desirability of further extending these anti-diphtheria measures.

Discussion opened by Dr. W. O. Hewitt, Attleborough, and Dr. Edward P. Bagg, Jr., Holyoke.

WEDNESDAY MORNING, JUNE 9, 9 A. M.

SECTION OF RADIOLOGY AND PHYSIOTHERAPY

*Library, First Floor*

Officers of the Section

L. B. Morrison, Boston, *Chairman.*
F. B. Granger, Boston, *Secretary.*

PROGRAM

1. *Diathermy in Medicine.*

Dr. William D. McFee, Gale Hospital, Haverhill, Mass.

Diathermy defined. How the current for diathermy is produced. When and how to use diathermy. Its physiological action. Summary of results from the use of diathermy alone or in combination with other agents of treatment.

2. *Physics of Ultra Violet Light.*

W. T Bovie, Assistant-Professor of Bio-Physics, Harvard University.

Analysis of solar spectrum. The influence of its component parts on plant, animal, and human growth. Experimental work done on plants and chickens with special reference to the ultra violet bands.

3. *Clinical Application of Ultra Violet Light.*

Dr. Edwin T. Wyman, Children's Hospital, Boston.

Types of cases in which ultra violet light is of value. Technic of post treatment. Laboratory findings. Report of cases.

4. *Injuries of the Vertebrae Demonstrated by the X-Ray In Relation to Industrial Surgery.*

Dr. A. W. George, Boston.

Industrial surgery demands immediate and competent roentgen study of injuries and diseases which arise in the course of employment. There are certain fundamental essentials that the roentgenologist must understand in the interpretation of all roentgen films of the vertebrae, especially in the interpretation of disease relative to the nomenclature used in his reports.

5. *Some Observations on The Use of Roentgen Rays and Radium in The Treatment of Malignant Diseases.*

Dr. George W. Holmes, Massachusetts General Hospital, Boston.

A statement of recently published facts regarding the effect of irridation on living tissues. The selection of cases for radiation treatment, curative or palative. The value of the various forms of radiation available.

Discussion to be opened by

1. Dr. Harvey W. Van Allen, Springfield.
2. Dr. Paul F. Butler, Boston City Hospital.

WEDNESDAY NOON, 12 O'CLOCK

*Ball Room*

BUSINESS OF THE ANNUAL MEETING OF THE SOCIETY

to be followed by

THE ANNUAL DISCOURSE

*Educational Requirements for Twentieth Century Practice. Who should determine them and how may they best be achieved?*

Dr. Charles F. Painter, Newton.

WEDNESDAY AFTERNOON, 2 P. M.

*Ball Room*

THE ANNUAL DINNER

*Be sure to get your dinner tickets early at the Bureau of Information.*

## MISCELLANY

### AN HONOR TO DR. EDWARD WYLLYS TAYLOR

ABOUT one hundred Boston physicians and guests from out of town dined at the Harvard Club, Friday evening, May 7, 1926, to honor Dr. Edward Wyllys Taylor, James Jackson Putnam Professor of Neurology, Harvard Medical School, and Chief of Service, Neurological Department, Massachusetts General Hospital, on his sixtieth birthday. Dr. Harvey Cushing acted as toastmaster and informal remarks were made by Dr. C. Macfie Campbell and Dr. Fred B. Lund. Dr. J. W. Courtney read an appropriate poem. Under the direction of Dr. Stanley Cobb, an amusing masque followed the dinner. To the surprise of both the guests and the recipients, "honorary degrees" were awarded by the "Dean" of the "Academy of Cynical Psychologists" to Drs. Bronson Crothers, Harvey Cushing, James B. Ayer and Henry R. Viets. Dr. Cobb was assisted by Drs. Gilbert Horrax, G. Schaltenbrand, Frank Fremont-Smith, Maurice Fremont-Smith, H. S. Forbes and Tracy J. Putnam, the latter acting as "Dean" of the Academy. A portrait of Dr. Taylor by Mr. Arthur Pope, of Cambridge, was presented to Mrs. Taylor.

Dr. Taylor spoke of the growing interest in the subject of neuro-psychiatry in the School and Hospital, citing some amusing incidents which occurred only a few years ago, when the subject and even the word "neurology" were less well known. He considered the dinner as a tribute to neurology as well as a most delightful personal honor and looked forward to a continued growth of interest in disease of the nervous system under the leadership of men in Boston.

### THE PRIZE AWARDED TO PROFESSOR HARVEY CUSHING

AMONG the list of awards of the Pulitzer Prizes for this year is one of one thousand dollars to Professor Harvey Cushing, Surgeon in Chief of the Peter Bent Brigham Hospital and Professor of Surgery in the Harvard Medical School, for his "Life of Sir William Osler." The judges selected this work as the best American biography of the time.

The medical profession is proud of this achievement of one of its leaders in surgery, and we extend congratulations to Dr. Cushing.

### A SPECIAL COMMISSION TO INVESTIGATE THE OPERATION OF THE WORKMEN'S COMPENSATION ACT

THE following Resolve was signed by Governor Fuller on April 28, 1926:

Providing for the Appointment of a Special Unpaid Commission to investigate the operation of the Workmen's Compensation Law.

*Resolved,* That the governor, with the advice and consent of the council, is hereby requested to appoint an unpaid commission of five persons, citizens of the commonwealth, one of whom shall be designated as chairman, for the purpose of investigating the effect of the present law relating to workmen's compensation in order to ascertain what defects in said law have arisen since its adoption and what changes, if any, in said law appear to it to be necessary to cure such defects. The commission shall be provided with suitable quarters in the state house or elsewhere, may expend for clerical and other assistance out of such amount, not exceeding twenty-five hundred dollars, as the general court shall appropriate, such sums as the governor and council approve, and shall report the result of its investigations and its recommendations, if any, with drafts of legislation embodying any such recommendations, to the general court by filing the same with the clerk of the house of representatives not later than December first of the current year.

### PREVENTING CO POISONING IN GARAGES

CARBON monoxide poisoning from all sources, fires, automobiles exhaust, industrial accidents and manufactured gas has recently been declared to be a more serious medical problem in the United States than poliomyelitis or smallpox. This form of poisoning does not always end fatally but mild poisoning resulting in severe headache and at times other symptoms is common among those who work in garages and automobile repair shops.

A very simple device has been found effective in removing automobile exhaust gases and preventing headache in a garage operated by the Bennett Motor Sales Company in New Britain, Connecticut. The device was installed after conference with health officer, and consists of a large size flexible metal pipe for carrying off the gases. One end of the pipe is carried out through the roof of the garage and the other end fitted with a piece of rubber hose eight or ten inches long for slipping over the exhaust pipe of an automobile when it is necessary to run the motor in the garage. By means of a rope and pulley the entire pipe is pulled up out of the way when not in use.

This device was installed in the garage in question early last fall and it is reported that only one case of headache has occurred since

that time. This case was in a man especially susceptible to headache from automobile exhaust gas, and who suffered very greatly from such headaches prior to the installation of the device for conveying the exhaust gases out of the garage. From this experience it would appear that the device is satisfactory in its operation.—*Bulletin Connecticut State Department of Health.*

## OFFICERS OF THE HAMPDEN DISTRICT MEDICAL SOCIETY ELECTED APRIL 27, 1926

PRESIDENT—George H. James, Westfield.

Vice-President—Everett A. Bates, Springfield.

Secretary and Treasurer—Hervey L. Smith, Springfield.

Commissioner of Trials—George L. Gabler, Holyoke.

Censors—Sup. Ernest L. Davis, Springfield; Archibald J. Douglas, Westfield; Frank Holyoke, Holyoke; Richard S. Benner, Springfield; Fred H. Allen, Holyoke.

Councillors—James B. Atwater, Westfield; Edward P. Bagg, Jr., Holyoke; John M. Birnie, Springfield; Arthur L. Damon, N. Wilbraham; Ernest L. Davis, Springfield; Harry D. Gafney, Ware; Morgan B. Hodskins, Palmer; Josiah C. Hubbard, Holyoke; Charles Jackson, Monson; Edward A. Knowlton, Holyoke; William C. Leary, Springfield; Allen G. Rice, Springfield; Jacob P. Schneider, Palmer; Michael I. Shea, Chicopee Falls; Hervey L. Smith, Springfield.

Nominating Committee—Edward P. Bragg, Jr., Holyoke; James B. Atwater, Westfield, Alternate.

## OTHER CITIES AND STATES LEARN SMALLPOX IS STILL FATAL. NEGLECT TO VACCINATE OPENS WAY FOR EPIDEMICS

No sooner does Florida disappear from the newspapers with its smallpox news than we read that smallpox prevails in the states of Washington and California. We find in the city of Seattle during the first three months of this year that 84 cases of smallpox occurred and there were 20 deaths.

Another western state, California, has broken its smallpox death record by having, during the first ten weeks of 1926, 1400 cases of smallpox with 125 deaths. The city of Los Angeles alone had 636 cases with 108 deaths. Apparently these communities failed to "In Times of Peace, Prepare for War" but now that smallpox has started, people by the thousands are being immunized by being vaccinated against smallpox and probably within the next few weeks, the height of the epidemic will have been reached.

It is too late for the dead to derive much benefit from vaccination nor can the dead profit from their experience.

The time for people to practice preventive medicine is while living.

### VACCINATION PREVENTS EPIDEMICS OF SMALLPOX

No community can save its horse by locking the barn door after the horse is stolen. Fortunately most of the larger communities in this section of the country require immunization of children against smallpox by vaccination before they can go to school, thus immunizing a large part of the population. Those communities in Connecticut that do not require this can profit by the unfortunate experience of the cities mentioned above, if they will.—*Bulletin, Connecticut State Dept. of Health.*

## PHYSICIANS REGISTERED AFTER THE MARCH. 1926, EXAMINATION BY THE BOARD OF REGISTRATION IN MEDICINE

| | |
|---|---|
| Number examined | 78 |
| Number registered | 36 |
| Number rejected | 42 |
| Per cent. rejected | 53+ |

Addy Praglin, 2284 83rd Street, Brooklyn, N. Y., care of S. Lewis, M.D.—St. Louis College of Physicians and Surgeons, 1925.

Yosel Chatzkewich, 411 Thatford Avenue, Brooklyn, N. Y.—Warsaw-Don University, 1920.

Jacob Jacobson, care of M. Dane, 566 West 162nd Street, New York City—Vorony, Russia, 1919.

George Eliott Carriel, 358 Main Street, Claremont, N. H.—Massachusetts College of Osteopathy, 1925.

Margaret Aloyse Brown, 137 Pleasant Street, Woburn, Mass.—Massachusetts College of Osteopathy, 1925.

Esca A. Pratt, 4 Batavia Street, Boston—Massachusetts College of Osteopathy, 1925.

Angus Hugh MacLeod, 166 Brown Avenue, Roslindale—Massachusetts College of Osteopathy, 1925.

Edmund Byron Burke, Newton Hospital, Newton Lower Falls—Boston University, 1925.

Mendel Poliak, 365 Walnut Street, Springfield, care of H. Sisitzky—Montpellier Medical School, France, 1922.

Samuel Linoff, 54 East 99th Street, New York City—St. Louis College of Physicians and Surgeons, 1924.

Jacob Chayet, 48 Garden Street, Boston—Tufts College Medical School, 1925.

Karl Brooke Sturgis, Bridgewater State Hospital, State Farm—Bowdoin Medical School, 1907.

Juanita Pearl Johns, Worcester State Hospital, Worcester—Boston University School of Medicine, 1925.

David Kliger, Beth Israel Hospital—Tufts College, 1925.

Henry Simpson Greenleaf, 1661 Beacon Boulevard, Brookline, or 43 Kilby Street, Boston—University of Pennsylvania, 1895.

Martin Fuchs, Foxboro State Hospital, Foxboro—Friedrich Wilhelm University, Berlin.

Harold Walgron Wright, Foxboro State Hospital—Columbia University, 1905.

Allen Henry Wright, Wilmington, Vt.—University of Maryland, 1906.

Joseph Freedman, Union Hospital, Fall River—McGill University Medical School, 1924.

Georges Rasenelle, Taunton State Hospital—University of Montreal, 1924.

Jacob Shapiro, Rutland State Sanitarium, Rutland—Tufts College, 1923.

Kate Frances Scott, 20 Berkeley Street, Cambridge—Rush Medical College, 1917.

Gus Bernard Fred, 298 Marlborough Street, Boston—Harvard Medical School, 1922.
Paul Dufault, Rutland State Sanitarium, Rutland—Montreal University, 1924.
Herbert Luther Lombard, 16 Austin Road, West Medford—Bowdoin Medical School, 1915.
Elbert Yit Chung, Boston City Hospital, 818 Harrison Avenue—Georgetown Medical School, 1923.
Fred Winslow Morse, Jr., 11 Tetlow Street, Boston—Harvard Medical School, 1924.
John Sidney Martin, 82 East Concord Street, Boston—Boston University Medical School, 1925.
Jane B. Armstrong, 120 East 82nd Street, New York City—Johns Hopkins Medical School, 1919.
Vernon Hill Troop Parker, Box 215, Stellarton, N. S.—McGill University, 1917.
John Garnett Young, Massachusetts General Hospital, Boston—Harvard Medical School, 1924.
Albert Henry Covner, 92 Laighton Street, Lynn—Tufts College Medical School, 1924.
Zilla Hurewitz, 50 Newton Street, Malden—Uriew University, Russia, 1915.
Maurice Aaron Lesser, 682 Blue Hill Avenue, Dorchester—Harvard Medical School, 1925.
Philip Samuel Foisie, Boston City Hospital, Boston—Harvard, 1924.
George Calvin Prather, 99 Commonwealth Avenue, Boston—Harvard, 1924.*
Arthur McGugan, Worcester State Hospital, Worcester—University of Michigan, 1892.*
James Clarke White, Massachusetts General Hospital—Harvard, 1923.*
Llewellyn Hall, 34 Seaward Road, Wellesley Hills, Mass.—Harvard Medical School, 1924.*
Kikor Djelalian, 147 Perham Street, West Roxbury—Paris University, 1895.

*Registered through certification by the National Examining Board.

## RABIES

DURING the 10 months period ending April 30, 1926, 75 heads of animals were examined for rabies in the laboratories of the Connecticut State Department of Health, of which 31 were positive and 44 negative. More heads were examined during this period than for any one of the preceding 7 fiscal years. Most of the heads examined were those of dogs. Occasionally the head of another animal is brought in for examination where rabies is suspected.

The total examinations for rabies in the State Department of Health's Bureau of Laboratories by fiscal years for the past 10 years are shown in the following table:

RABIES EXAMINATIONS FOR TEN YEARS BEGINNING JULY 1, 1916

| Fiscal year | Positive | Negative | Uncertain | Total |
|---|---|---|---|---|
| 1916-17 | 117 | 23 | 1 | 141 |
| 1917-18 | 49 | 65 | 1 | 115 |
| 1918-19 | 26 | 25 | — | 51 |
| 1919-20 | 3 | 21 | — | 24 |
| 1920-21 | 6 | 23 | — | 29 |
| 1921-22 | 26 | 22 | — | 48 |
| 1922-23 | 34 | 27 | 2 | 63 |
| 1923-24 | 12 | 32 | 5 | 49 |
| 1924-25 | 8 | 34 | — | 42 |
| 1925-26* | 31 | 44 | — | 75 |
| Total | 312 | 316 | 9 | 637 |

*Ten months of present fiscal year, to end of April.

A dog lover recently wrote the State Department of Health saying he had often heard of "mad dog scares" but doubted any real danger from rabies. The foregoing table concerning the number of rabies examinations should dispel any doubt as to Connecticut having a real rabies problem. It will be noted that 312 or almost half of the heads examined in the period covered, were positive for rabies. Too much weight should not be given to negative reports from the laboratory. Sometimes animals are killed too early in the disease for the laboratory examination to be positive. Sometimes a blow on the head in killing the animal or degeneration of tissues after death renders the brain substance unfit for examination. In such instances failure to find laboratory evidence of rabies does not mean that the animal was free from the disease.

Certain precautions should be taken to avoid exposure to rabies. One is to beware of stray dogs. Rabid dogs wander away from home during the excited stage of the disease and often travel for long distances. A stray dog that appears in the neighborhood may be a rabid dog during the excited stage when it is most dangerous. Stray dogs should be impounded in some safe place where they have proper care until their owners can be located.—*Bulletin Connecticut State Department of Health.*

## RECENT DEATH

**DEAN**—DR. RALPH DENNISTON DEAN, a practitioner of Taunton since 1896, died at his home in that city, May 11, 1926, after a year's illness.

He was born in Warren, R. I., on November 8, 1872, son of Abiathar Williams Dean and Elizabeth Blake Dean. After attending the Taunton schools he entered Harvard Medical School and was graduated in 1896. He was a member of the Bristol North District of the Massachusetts Medical Society, was president in 1913 and had been treasurer since 1919. He was also secretary of the Taunton Doctors' Club and was a member of the Morton Hospital staff. During the war he served on the medical advisory board. He was a member of the Winslow Congregational Church. He was also a member of the governing board of the Taunton Automobile Club and was a member of the Taunton Harvard Club. He was a life member of the Old Colony Historical Society and for many years was treasurer of the Dean Family Reunion. He was a 32nd degree Mason.

Dr. Dean is survived by his widow, Mrs. Mary K. Dean, and by a daughter, Margery Dean.

## CORRESPONDENCE

### SIGMUND FREUD

Boston, May 12, 1926.

*Editor, Boston Medical and Surgical Journal:*

On May 6, 1926, Sigmund Freud reached his seventieth birthday, and he is still actively working and intellectually keen. It occurred to me that perhaps the readers of the JOURNAL would feel interested to learn of his recent activities and the development of his discoveries. In honor of this seventieth birth-

day there will appear simultaneously two commemoration volumes to which papers will be contributed by his various pupils and disciples in all parts of the world.

Freud has very fortunately recovered from the severe illness of several years ago and has lived to see the gradual interpenetration of psychoanalysis, not only into neurology and psychiatry, but also into literature, psychology, philosophy, art, esthetics and ethics. His collected works in eleven volumes have just been completed in German, and in addition there has recently appeared in English the fourth or final volume of selected papers from his writings. Furthermore, his last work, entitled "Inhibition, Symptom and Anxiety," has just been published by the International Psychoanalytical Press.

Last August it was a great pleasure, when I saw Freud at his summer home in Semmering, to find him so well and as mentally alert as when he visited America in 1909, at the invitation of President G. Stanley Hall of Clark University for the purpose of delivering a course of lectures on the origin and development of psychoanalysis. At that time he was also the recipient of an honorary degree from the university. At the Ninth International Psychoanalytical Congress, which met at Bad-Homburg in September, 1925, there were about two hundred in attendance, representing various psychoanalytic societies in nearly all parts of the world, even from countries as remote as Russia and India. Freud's paper, entitled "Psychical Results of Differences in Anatomical Sexual Structure," was read by his daughter, Miss Anna Freud.

It should be remembered that Freud was above all a physician and made his astonishing discoveries from his investigations of hysteria and other psychoneuroses. He has always been very cautious in expressing his conclusions, which were derived from a careful amassing of facts and long and patient observation, the most potent tests of true genius. It must be generally conceded that, for the first time in the history of medicine, Freud has provided us, through the discoveries of psychoanalysis, with an insight into the mechanism of the neuroses such as had never been heretofore attained. As a result of these discoveries there was devised a form of psychotherapy which penetrates into neurotic maladies at their source in the unconscious mental life, instead of being merely content with symptomatic treatment.

For biographical data concerning the life and work of Freud, three sources are at present available. These are "Sigmund Freud, His Personality, His Teaching and His School," by Fritz Wittels, published in 1924, and two monographs by Freud himself. These latter are entitled "The History of the Psychoanalytic Movement," published in 1914, and the more recent (1925) autobiographical account of his work in the series "Contemporary Medicine in Autobiography," a series which also contains other prominent medical investigators and clinicians. This last work supplements the earlier "History" and describes not only Freud's medical and pathological training but also the progress of psychoanalysis up to the present.

ISADOR H. CORIAT.

## THE COTTING LUNCH

May 15, 1926.

*Editor, Boston Medical and Surgical Journal:*

The JOURNAL of May 13, page 906, says: "There is to be a 'Cotting Dinner' on Tuesday evening for all Fellows and guests in place of the customary 'Cotting Lunch,'" etc.

The "Cotting Supper" Tuesday evening will be for members of the Council only.

Please correct this in your next issue and oblige,

Yours very resp'y,

WILLIAM C. LEARY.

## CONFERENCES FOR DISCUSSION OF SUBJECTS RELATING TO MATERNAL AND INFANT HYGIENE

A copy of the following letter has been sent to Secretaries of District Societies:

May 3, 1926.

As Secretary of the District Medical Society I am confident that you will be interested to know and to let your district members know that the Department of Public Health, co-operating with the Visiting Nurse Associations in a given region, is planning a series of conferences for the discussion of subjects relating to maternal and infant hygiene. These conferences are designed primarily for nurses, but it is the hope that others interested in infant or maternal work will share in them. We especially hope that some of the physicians in each vicinity will take an active part.

A program of one of these conferences to be held in your vicinity is enclosed for your interest. I assure you it will add greatly to the value of this conference if some of the physicians will attend and share in the discussion.

Very truly yours,

GEORGE H. BIGELOW, M.D.,
*Commissioner of Public Health.*

## OMISSION OF MAY AND SEPTEMBER EXAMINATIONS BEFORE THE BOARD OF REGISTRATION IN MEDICINE

May 14, 1926.

*Editor, Boston Medical and Surgical Journal:*

The Board of Registration in Medicine has voted in future to omit the May examination. As the September examination has already been omitted, the only ones to be held in future are those required under the law, that is, March, July and November.

DR. FRANK M. VAUGHAN, *Secretary.*

## AN APPRECIATION OF THE JOURNAL*

18 April 1926,
Haret abou adjoer. Alep.

*Editor, Boston Medical and Surgical Journal:*

I received your kindly letter in order to renew my yearly subscription to the BOSTON MEDICAL AND SURGICAL JOURNAL, which expired January 18, 1926. Now I come to renew my subscription to same journal and soon you will get the subscription rate.

In regard to this journal, I am happy being one of the readers of this journal. It is as a textbook for me, though I get French journals, but there is considerable difference between them. BOSTON MEDICAL JOURNAL teaches me; it speaks clear and simple. I like very much to study the weekly case reports of Boston hospital, reports of recent advances of medicine and original articles, and the observations and discussions between eminent pathologists and surgeons in order to put diagnostic.

I remain,

Very truly yours,

DR. YERVANT KHERLOPIAN.

*Our readers must excuse faulty construction, but we felt that the evidence of a fairly good knowledge of English by a foreign physician would be of more interest than an edited letter.

## MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

DISEASES REPORTED FOR THE WEEKS ENDING MAY 1 AND 8

| | May 1 | May 8 |
|---|---|---|
| Actinomycosis | — | 1 |
| Anterior poliomyelitis | 1 | 1 |
| Chickenpox | 117 | 81 |
| Diphtheria | 58 | 58 |

| | | |
|---|---|---|
| Dog-bite | 12 | 11 |
| Dysentery | 1 | — |
| Encephalitis lethargica | 3 | 3 |
| Epidemic cerebrospinal meningitis | 3 | 3 |
| German measles | 405 | 509 |
| Gonorrhea | 74 | 94 |
| Influenza | 27 | 35 |
| Leprosy | 1 | — |
| Measles | 859 | 831 |
| Mumps | 117 | 134 |
| Ophthalmia neonatorum | 17 | 42 |
| Pneumonia, lobar | 153 | 140 |
| Scarlet fever | 264 | 197 |
| Septic sore throat | 4 | — |
| Suppurative conjunctivitis | 7 | 5 |
| Syphilis | 19 | 30 |
| Trachoma | 2 | 1 |
| Tuberculosis, pulmonary | 164 | 142 |
| Tuberculosis, other forms | 17 | 16 |
| Tuberculosis, hilum | 12 | 9 |
| Typhoid fever | 6 | 8 |
| Whooping cough | 290 | 278 |

## RESUME OF COMMUNICABLE DISEASES APRIL, 1926

COMPILED BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

### GENERAL PREVALENCE

The only common communicable disease which showed an increase over last month was German measles.

| | Apr., 1926 | Mar., 1926 | Apr., 1925 |
|---|---|---|---|
| German measles | 1,295 | 1,067 | 1,019 |

### RARE DISEASES

*Anterior poliomyelitis* was reported from Chelsea, 1; Medford, 1; Melrose, 2; Quincy, 1; total, 5.

*Dog-bite requiring anti-rabic treatment* was reported from Arlington, 1; Everett, 1; Lowell, 12; Malden, 1; Peabody, 4; Revere, 2; Springfield, 1; Waltham, 1; Wayland, 2; total, 25.

*Encephalitis lethargica* was reported from Boston, 4; Cambridge, 1; Springfield, 1; Waltham, 2; total, 8.

*Epidemic cerebrospinal meningitis* was reported from Athol, 1; Boston, 1; Cambridge, 1; Clinton, 1; Fall River, 1; Haverhill, 1; Lawrence, 1; Melrose, 1; Reading, 1; Somerville, 1; Springfield, 1; Worcester, 2; total, 13.

*Leprosy* was reported from Ludlow, 1.

*Malaria* was reported from Boston, 1; Brockton, 1; total, 2.

*Pellagra* was reported from Pittsfield, 1.

*Septic sore throat* was reported from Amherst, 1; Boston, 5; Fall River, 1; Mansfield, 1; Somerville, 1; Walpole, 1; Worcester, 1; total, 11.

*Smallpox* was reported from Upton, 4.

*Trachoma* was reported from Attleboro, 1; Boston, 3; Cambridge, 1; Haverhill, 2; Malden, 1; total, 4.

*Trichinosis* was reported from Boston, 2.

### DISTRIBUTION

*All Communicable Diseases*

| | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases (all causes) | 11,839 | 10,309 |
| Case rate per 100,000 population | 280.7 | 247.9 |

*Certain Prevalent Diseases*

| *Diphtheria* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 228 | 394 |
| Case rate per 100,000 population | 5.4 | 9.5 |

| *Measles* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 3,776 | 3,846 |
| Case rate per 100,000 population | 89.5 | 92.5 |

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

| | | | |
|---|---|---|---|
| Fairhaven | 17 | Winthrop | 116 |
| New Bedford | 120 | Arlington | 52 |
| Bridgewater | 56 | Concord | 32 |
| Easton | 45 | Fitchburg | 63 |
| Hingham | 40 | Holden | 25 |
| Hopkinton | 28 | Leicester | 43 |
| Marlboro | 39 | Webster | 61 |
| Needham | 130 | Chicopee | 54 |
| Newton | 212 | Holyoke | 88 |
| Wellesley | 37 | Russell | 68 |
| Newburyport | 44 | Springfield | 300 |
| Saugus | 43 | Westfield | 49 |

| *Scarlet Fever* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 1,103 | 1,148 |
| Case rate per 100,000 population | 26.1 | 27.6 |

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

| | | | |
|---|---|---|---|
| New Bedford | 80 | Westboro | 18 |
| Braintree | 13 | Cheshire | 16 |
| Millbury | 12 | | |

| *Tuberculosis, Pulmonary* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 616 | 555 |
| Case rate per 100,000 population | 14.6 | 13.3 |

| *Tuberculosis, Other Forms* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 95 | 94 |
| Case rate per 100,000 population | 2.2 | 2.2 |

| *Typhoid Fever* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 23 | 41 |
| Case rate per 100,000 population | .5 | .9 |

| *Whooping Cough* | Apr., 1926 | Apr., 1925 |
|---|---|---|
| Total cases | 1,376 | 622 |
| Case rate per 100,000 population | 32.6 | 14.9 |

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

| | | | |
|---|---|---|---|
| Attleboro | 51 | Springfield | 58 |
| Cambridge | 116 | | |

*The median endemic index is obtained by arranging in arithmetical sequence the monthly totals of reported cases for the past five years and selecting the middle figure.

## CONNECTICUT DEPARTMENT OF HEALTH

### MORBIDITY REPORT FOR THE WEEK ENDING MAY 1, 1925

| | | | |
|---|---|---|---|
| Measles | 726 | Conjunctivitis, infectious | 1 |
| Last week | 571 | Dysentery (bac.) | 2 |
| Whooping cough | 39 | Encephalitis, epidemic | 1 |
| Last week | 50 | German measles | 10 |
| Typhoid fever | 1 | Influenza | 20 |
| Last week | 1 | Mumps | 6 |
| Diphtheria | 19 | Pneumonia, lobar | 69 |
| Last week | 13 | Septic sore throat | 1 |
| Scarlet fever | 89 | Tuberculosis, pulmonary | 41 |
| Last week | 81 | Tuberculosis, other forms | 7 |
| Diphtheria bacilli carriers | 2 | Gonorrhea | 5 |
| Bronchopneumonia | 63 | Syphilis | 9 |
| Cerebrospinal meningitis | 1 | | |
| Chickenpox | 44 | | |

MORBIDITY REPORT FOR THE WEEK ENDING MAY 8, 1926

| | | | |
|---|---|---|---|
| Measles | 711 | Chickenpox | 61 |
| Last week | 726 | Conjunctivitis, infectious | 1 |
| Scarlet fever | 78 | Encephalitis, epidemic | 1 |
| Last week | 89 | German measles | 121 |
| Diphtheria | 25 | Influenza | 9 |
| Last week | 19 | Malaria | 1 |
| Diphtheria bacilli carriers | 4 | Mumps | 9 |
| Whooping cough | 55 | Pneumonia, lobar | 54 |
| Last week | 39 | Tuberculosis, pulmonary | 24 |
| Typhoid fever | 3 | Gonorrhea | 21 |
| Last week | 1 | Syphilis | 31 |
| Bronchopneumonia | 42 | | |
| Cerebrospinal meningitis | 1 | | |

## NEWS ITEMS

A DINNER TO DR. WILLIAM OTIS FAXON—In recognition of fifty years of successful medical practice and public service in Massachusetts, the friends and associates of Dr. William O. Faxon of Stoughton tendered a complimentary dinner to him at the B. A. A. Club on the evening of May 1, 1926.

About 125 men were present. Among the company were many prominent persons in political, civil and medical life.

MEMORIALS TO PROFESSOR WILLIAM THOMPSON SEDGWICK—At the Detroit meeting of the American Public Health Association Dr. Victor C. Vaughan proposed a memorial in honor of Professor Sedgwick. This will take the form of a memorial medal which may be awarded from time to time for distinguished service in public health. Another effort is being made by students and friends of Professor Sedgwick which will take the form of a lectureship in his honor.

An appeal for funds is now going on under the joint auspices of the committees of these organizations.

Gifts may be specified as applicable to either of these projects or if not defined will be divided equally between the two objects.

ANNOUNCEMENT: SIR WILLIAM OSLER MEMORIAL VOLUME—The memorial publication just issued under the auspices of the International Association of Medical Museums is an attractive volume containing 630 pages of memorial articles and bibliographic notations, with over 100 fine illustrations. The volume is prefaced by forewords from Professor William H. Welch and the late Sir Clifford Allbutt, and contains a large series of reminiscences and appreciations written by over 100 colleagues, friends and pupils. Following this biographical and memorial section is a classified and annotated bibliography of Sir William Osler's publications, the work of several efficient collaborators, which reveals Osler's many-sided activities and constitutes an invaluable source of reference alike to the research worker and medical historian. The book is completed by a full bibliography of writings about Osler.

The volume has been privately issued and is now available at the subscription price of $10 per copy. Checks should be made payable to the International Association of Medical Museums (Osler Memorial Number), and forwarded to Dr. Maude E. Abbott, Managing Editor, Osler Memorial Number, McGill University, Montreal, Canada.

STOMATOLOGY NUMBER—The July issue of *Medical Life* will be a Stomatology Number devoted entirely to the "History of Stomatology," by Dr. A. J. Asgis of New York. The issue will be profusely illustrated. There will also be a chapter by E. B. Hardisty on "Stomatologic Education in the Medical and Dental Schools in the United States in 1926."

DR. PHILEMON E. TRUESDALE DELIVERS AN ADDRESS—On Wednesday, April 21, Dr. P. E. Truesdale read a paper on "Peptic Ulcer," with lantern demonstrations of this lesion in both stomach and duodenum, before the North Bristol District of the Massachusetts Medical Society.

THE NEW ENGLAND SURGICAL SOCIETY—Dr. Ernest A. Wills, 580 Asylum Street, Hartford, Conn., secretary of the New England Surgical Society, has announced that the next meeting of this society will be held in Boston about the first of next October and that the semi-annual meeting of the executive committee will occur about the middle of May, 1926.

Members are asked to confer with the secretary and give information as to the material which each will contribute or submit suggestions.

## REPORTS AND NOTICES OF MEETINGS

### THE NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY

THE National Association for the Study of Epilepsy extends a cordial invitation to attend the twenty-fifth annual meeting which will be held at the Waldorf-Astoria, New York City, Monday and Tuesday, June 7th and 8th, 1926.

Papers will be read by Doctors Wuth, Clark, Patterson, Jelliffe, Clausen, Alford, Brill, Elsberg, Gordon, Sullivan, Peckham, Hodskins and others. This meeting immediately precedes the sessions of the American Psychiatric Association.

DR. G. KIRBY COLLIER, *President*,
80 East Avenue, Rochester, N. Y.
DR. A. L. SHAW, *Secretary and Treasurer*,
Camden, N. Y.

### NEW ENGLAND HEART ASSOCIATION

MEETING, Thursday evening, May 27, 1926 (at 8:15 P. M.), Massachusetts General Hospital, Boston. Amphitheatre, Out-Patient Department.

From the Cardiac Clinics and Laboratory of the Massachusetts General Hospital. Ten minute papers:

1. The Prognosis of Angina Pectoris and of Coronary Thrombosis, Paul D. White.
2. (a) The incidence of Previous Tonsillectomy in Subacute Bacterial Endocarditis; (b) The Heart in Early Syphilis, Kenneth B. Turner.
3. The Significance of Electrocardiograms of Low Voltage, Howard B. Sprague.
4. Digitalis in Pneumonia, Walter L. Burrage.
5. Correlation of Clinical and Pathological Findings in Cardiovascular Disease, T. Duckett Jones.

S. A. LEVINE, *Sec.*

## THE MIDDLESEX NORTH MEDICAL SOCIETY

THE annual meeting of the Middlesex North Medical Society was held on Wednesday, May 12, 1926, at the Lowell General Hospital. The following named officers were elected for the ensuing year:

President, M. L. Alling; Vice-President, Joseph E. Lamoureaux; Treasurer, E. J. Clark; Secretary, T. A. Stamas; Librarian, P. J. Meehan; Commissioner of Trials, F. E. Varney; District Nominating Committee, Principal, John F. Boyle; Alternate, W. B. Jackson; Censors, J. H. Lambert, Supervisor; E. J. Clarke, M. A. Tighe, J. A. Gage, G. A. Lavallee; Councilors, W. B. Jackson, J. H. Lambert, J. F. Boyle, J. B. O'Connor, J. A. Mehan, T. A. Stamas.

A clinical program was arranged by the staff of the hospital which consisted of: The Value of Metabolism and Demonstration of Apparatus, by Dr. James Rodger; 2. A General Review of Toxemia of Pregnancy, by Dr. M. Bryant; 3. A Review of Empyema, with Demonstration of Several Cases, by Dr. A. R. Gardner; 4. Discussion of Fractures with Demonstration of Cases, by Drs. J. Lambert and G. Forrest Martin. 5. Intestinal Obstruction, by Dr. M. Alling.

Following the clinical meeting the annual dinner was served.

Senator Walter F. Perham was called upon to explain his action in regard to the Compulsory Vaccination bill for private schools.

## THE LYNN MEDICAL FRATERNITY

THE "Lynn Medical Fraternity" held its postponed annual meeting and dinner at Deer Cove Inn on May 5.

The entire list of officers were reelected for one year.

The guest of the evening, Dr. George D. Cotter of Boston, spoke on "Some Acute Abdominal Conditions in Infancy and Childhood."

He selected for consideration, congenital pyloric stricture, intussusception and appendicitis and stressed the importance in cases of dehydration, of not only supplying fluid to the system, but providing also for restoring the depleted alkaline reserve.

General discussion followed his address. Adjourned 9:30 p. m.

WM. T. HOPKINS, *Reporter.*

## THE ESSEX SOUTH DISTRICT SOCIETY

THE Essex South District Medical Society held its annual meeting and election of officers on May 11, 1926, at The Tavern, Gloucester, Mass.

An unusual feature was the presence of the wives of members which swelled the attendance to the number of 134.

After dinner the party was entertained by Dr. Davidoff of Peter Bent Brigham Hospital who recounted his experiences in the Arctic regions as a member of the MacMillan party of last summer. Many interesting lantern slides were shown which well illustrated the subject matter of his discourse.

### OFFICERS ELECTED

President, Dr. Charles H. Phillips, Beverly; Vice-President, Dr. R. E. Bicknell, Swampscott; Secretary, Dr. R. E. Stone, Beverly; Treasurer, Dr. Andrew Nichols, 3rd, Danvers; Librarian, Dr. C. M. Cobb, Lynn; Commissioner of Trials, Dr. J. E. Simpson, Salem; Censors, Dr. J. F. Jordan (Supervisor), Peabody; Dr. S. W. Mooring, Gloucester; Dr. L. C. Swan, Beverly; Dr. C. L. Hoitt, Lynn; Dr. C. L. Curtis, Salem; Councillors, Dr. F. W. Baldwin, Danvers; Dr. J. Armand Bedard, Lynn; Dr. J. F. Jordan, Peabody; Dr. P. P. Johnson, Beverly; Dr. A. N. Sargent, Salem; Dr. J. W. Trask, Lynn; Dr. J. Frank Donaldson, Salem; Dr. H. K. Foster, Peabody; Dr. W. G. Phippen, Salem; Dr. R. E. Stone, Beverly; Dr. W. T. Hopkins, Lynn; Executive Committee, Dr. Stuart Gardner, Salem; Dr. P. P. Moore, Gloucester; Dr. G. H. Kirkpatrick, Lynn; Dr. A. E. Parkhurst, Beverly; Dr O. S. Pettingill, Middleton; Nominating Councilor, Dr. J. Frank Donaldson, Salem; Alternate Nominating, Dr. W. T. Hopkins, Lynn.

WM. T. HOPKINS, *Reporter.*

## MASSACHUSETTS HOMEOPATHIC HOSPITAL

THE regular monthly meeting of the Staff of the Massachusetts Homeopathic Hospital was held in the Evans Memorial on Friday, April 30, 1926, at 8 p. m.

### PROGRAM

1. Analysis of Service for the month of March.
2. Necropsy Report for the month of March.
3. Present Day Problems in the Training of Nurses," Miss Margaret Dieter, R.N.
4. "Influenzaf Pneumonia," Reviewing Cases of Influenzal Pneumonia at the Robinson Memorial During 1926, Elinor F. Reilly, M.D. Discussion opened by Drs. A. S. Briggs and E. Pakenham Ruggles.
5. "Epstein's Nephrosis," Maurice A. Lesser, M.D. Discussion opened by Drs. A. W. Rowe and Orville R. Chadwell.
6. Question Box.

## BRISTOL SOUTH DISTRICT MEDICAL SOCIETY

THE annual meeting was held in the New Bedford Public Library, on Thursday, May sixth.

Paper by Dr. Joseph Garland of Boston. Subject: Periodic Health Examination.

Officers elected are as follows: President, S. E. Donovan; Vice-President, P. E. Truesdale; Secretary and Treasurer, G. E. Borden; Com. on Trials, A. C. Lewis; Censors, C. J. Leary (Supervisor), D. D. Pratt, F. M. Howes, S. V. Merritt, W. F. MacKnight.

Councillors, E. F. Cody (nominating), A. B. Cushman, C. J. Leary, G. L. Richards (Alternate), E. F. Curry, J. H. Lindsey, T. F. Warren, W. A. Neild, I. N. Tilden.

## HARVARD MEDICAL SOCIETY

THE usual bi-weekly meeting of the Harvard Medical Society held at the Brigham Hospital was omitted on May the 11th. It is expected that Professor Brouwer of Amsterdam will address the Society on Tuesday, May the 25th. Due notice will be given. This will close the exercises for the year.

Medical students and physicians are cordially invited to attend.

## THE FRANKLIN DISTRICT MEDICAL SOCIETY

THE annual meeting of the Franklin District Society was held at the Welden, Greenfield, on May 11, 1926. After routine business and the election of officers the Society had the pleasure of listening to an unusually interesting paper by Dr. H. A. Osgood of Boston on "Limitations and Possibilities of X-ray Diagnosis." The meeting proved one of the best of the year with two-thirds of the total membership present.

The following officers were elected:

President, P. F. Leary, Turners Falls; Vice-President, A. H. Ellis, Greenfield; Secretary and Treasurer, Chas. Moline, Sunderland; Censors, H. G. Stetson (Supervisor), Greenfield; J. W. Cram, Colrain; H. N. Howe, Greenfield; C. L. Upton, Greenfield; R. A. McGillicuddy, Turners Falls; Councillors, G. P. Twitchell, Greenfield (Nom.); H. G. Stetson, Greenfield; Commissioner of Trials, F. E. Johnson, Erving.

CHAS. MOLINE, *Sec.*

## BRISTOL NORTH DISTRICT MEDICAL SOCIETY

OFFICERS ELECTED AT THE ANNUAL MEETING

PRESIDENT, A. S. MacKnight, Attleborough; Vice-President, F. H. Dunbar, Mansfield; Secretary, J. L. Murphy, Taunton; *Treasurer, R. D. Dean, Taunton (J. V. Chatigny appointed at last meeting as treasurer pro tem.); Librarian, no nomination; Commissioner of Trials, Charles S. Holden, Attleborough; Censors, Frank A. Hubbard, (Supervisor) Taunton; A. R. Crandell, Taunton; T. F. Clark, Taunton; H. B. Baker, Taunton; T. J. Robinson, Taunton; Nominating Councillor, F. A. Hubbard, Taunton; Alternate, Wm. H. Allen, Mansfield; Wm. O. Hewitt, Attleborough.

*Since this was received news has come of the death of Dr. Dean.

## HAMPSHIRE DISTRICT MEDICAL SOCIETY

HAMPSHIRE District held its annual meeting May 12 in the McCallum Home for Nurses, the retiring president, Frank E. Dow, giving an interesting paper on "Hospitalization." At this meeting the following officers were elected:

President, Willard B. Segur, Enfield; Vice-President, Chester T. Cobb, Northampton; Treasurer and Secretary, Luther O. Whitman, Northampton; Librarian, Frank H. Smith, Hadley; Commissioner of Trials, W. P. Stutson, Cummington; Censors, A. J. Bonneville, Supervisor, Hatfield; C. H. Wheeler, Haydenville; L. B. Pond, Easthampton; J. D. Collins, Northampton; O. W. Cobb, Easthampton; Councillors, E. D. Williams, Easthampton; J. G. Hanson, Northampton; A. J. Bonneville, Hatfield; F. E. Dow, Northampton; Councillors State Nominating Committee, J. G. Hanson, Principal; E. D. Williams, Alternate.

LUTHER O. WHITMAN, *Sec.*

### SOCIETY MEETINGS

DISTRICT MEDICAL SOCIETIES

*Middlesex East District Society*

May—Annual meeting. Colonial Inn, North Reading. Speaker, Dr. E. H. Place. Subject to be announced.

*Notices of meetings* must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear

## BOOK REVIEW

*Les Maladies des Glandes Endocrines.* By PROF. KNUD H. KRABBE. Preface de M. LE DOCTEUR STEPEHEN-CHAUVET. Librairie Le Francois, Paris, 1925.

This is an interesting summary of the recognized clinical entities produced by the glands of internal secretion, written in French in a simple clear way. It describes briefly but well all that is definitely known about their clinical manifestations. The pictures which demonstrate the various conditions are well chosen and one can obtain from this short book of only 92 pages a clear, concise picture. Too many of our recent books on endocrines are filled with theories or with isolated physiological facts which do not help in the clinical differentiation of abnormalities as they are seen in the clinic.

This book is of value largely to the student early in his study of these diseases, or to one who wants a brief summary. For this purpose it is of great value and is highly recommended.